The Builder.

VOL. LXVI. No. 2673. APRIL 28, 1894.

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The Ventilation of the Houses of Parliament.

FROM the period when our great legislative palace was built there has been a praiseworthy desire on the part of those who had official charge of the building that it should present, among other excellences, a model of efficient ventilation. With this view it has been the field of various successive experiments on a large scale, each of which in turn it was supposed would completely succeed in rendering the legislative chambers places of pure air. The collective experience of those who sit in these chambers, more particularly those who occupy the House of Commons, has, however, refused to be satisfied. It must be admitted that to supply pure air in a manner which shall satisfy all the occupants in a room that holds several hundred people, and is from time to time occupied to its full capacity of seat room, is about the most crucial test to which the resources of a ventilating engineer could be put. Not only is there the difficulty, a considerable one in any case, of supplying fresh air so that it shall be equally useful to and utilised by persons in all parts of the room, but there is the additional and almost insuperable difficulty of satisfying the various feelings and perceptions of an assembly of persons varying in physical conformation and habit of life, and who cannot agree as to human requirements in the matter of air supply. What to one person seems only a sufficient change of air for properly healthful conditions, to another seems a lavish introduction of what he calls "draughts." It is hopeless to reconcile the evidence of these various witnesses; but as a general rule it may pretty safely be assumed that it is those who require the fullest supply of air who are in the right, and that the objectors are probably people who are not in general living under such healthy conditions; who coddle themselves from fresh air, and fancy every open window is a danger to health. If English people in general would open their windows more freely in all weathers they would have better health, and would not get into that morbid state of sensitiveness which regards every contact with the external air as a hardship and even a danger to health. Therefore, in dealing with the ventilation of a place in which many persons assemble, we should always be in favour of suiting the ventilation to the taste of those who desire most of it. The others may grumble, but they will be the better for it in the long run, even without knowing why.

Mr. Keith's report to the present First Commissioner of Works represents the latest proposal for the improvement of the ventilation of the Houses of Parliament. The report touches briefly on the historic side of the subject, so far as is necessary to expound the causes of present defects. At present the ventilation is entirely on the extract system (the extracting power being furnished by fires at the foot of the upcast shafts in the towers), except in regard to the debating chamber itself of the House of Commons, in which the indraught of air is assisted by propulsion fans, so that it is a combination of the plenum and vacuum system. These fans were, we believe, a somewhat recent addition, and we were told, in inspecting the ventilating arrangements of the building five or six years ago, that they were not very much used — only when specially hot weather rendered them necessary; but we presume from the terms of the report that their use has become more continuous since then. The air is warmed before entering the habitable parts of the building by steam-pipes, which in the case of the House of Commons are placed in a basement immediately under the House, but separated from it by a chamber which is called the mixing chamber, the function of which is to allow the warmth to be more evenly diffused through the air before it enters through the floor of the House.

The most obvious defect of the system is the extraordinary and insanitary idea of admitting air through the floor coverings which are trodden all day by the feet of the occupants, with the natural result of bringing up to some extent at least, into the House, the dust and lighter particles of dirt which have accumulated in the floor covering. It seems almost like a farce that the air is "washed" before being admitted into the heating chamber, when it is to be fouled in this way immediately afterwards. The original intention, carried out for a long time, was that the whole floor should be a grated one, "covered with a carpet pretty open in texture, through which the fresh air would freely pass at a low velocity, and be equally distributed over the entire area of the various floors." As a means of distribution this was well enough, had it not been for the insanitary and disagreeable feature of coming through a trodden carpet. The carpet has been abandoned—we presume under the later perception as to its insanitary character, and the grated area is now more limited and covered with a coarse netting of whipcord, which is not so retentive of dust, and allows the heavier particles of mud, &c., from the boots of the occupants to drop through the grating. This is a degree better, but Mr. Keith does not in any way deny the objectionable nature of this mode of admitting the air, even under these modified arrangements; he only observes that an alteration in this particular would involve a reconstruction of the whole plan of inward ventilation, and therefore he contents himself with merely drawing attention to what he rather mildly calls "this undoubted weakness in the system." To have proposed such a reconstruction would probably have been regarded as going beyond his commission. Nevertheless we are of opinion that this reconstruction will have to be effected sooner or later, as the increasing sanitary sensitiveness of the day will not long tolerate the present method; and it may be a question whether the steps necessary to get rid of it had not better be taken into consideration at once, more especially as we shall see that it is one cause of the difficulty in securing adequate ventilation of the House of Commons.

The clumsy and antiquated extract force of the upcast shaft and fire Mr. Keith proposes to do away with entirely, rightly observing that such a system is inadequate from the fact that it acts less powerfully in summer, when rapid ventilation is most required, than in winter; it might be added that for such a complicated building, and for a debating chamber subject to such frequent and sudden changes in its numerical population, the system is additionally defective from the difficulty of regulating and rapidly varying the strength of its action. He proposes, of course, mechanical extract fans, which can be driven quicker or slower at any moment as required.

The third main defect noted in the report is the employment of steam-pipes as heaters. Mr. Keith finds that the gills or "batteries" placed on the pipes in 1854 by Sir Goldsworthy Gurney, with the view of getting increased area of heating surface with a lower temperature, do not perform this office effectually, because the system of covering a certain proportion of the batteries with cloths in order to moderate the warmth when required (when the House is very full for example), operates in heating the plates so much while they are under cover, that they burn the air on removal just as much as the unadulterated pipes did before. The substitution of warm water for steam in the pipes would, he considers, meet the case by reducing the heat of the surface without rendering it necessary to lay down a fresh system of pipes. We presume it is considered that the "batteries" would be sufficient to give the area of heating surface which would be supplied by the increased area of the larger pipes which would otherwise be necessary when water heating was substituted for steam; though this point is not expressly touched upon.

We now come to the crucial difficulty in the case, and the one which has evidently more especially led to the present inquiry into the ventilation of the Houses; that is, the unequal supply of air in the House of Commons, where it has been found by observation and experiment that, whatever may be the condition of the air in the centre of the House, that at the sides is not pure. On this head the report says:—

> "There is no doubt that a state of matters very far indeed removed from ideal ventilation, exists at present in the Houses of Parliament, and more especially in the House of Commons. Not only have I visited all parts of the Houses of Parliament, and remained there hour after hour, in order to find out the effect of the atmosphere upon me personally, but I arranged for several Members of the House, as well as other impartial and healthy persons from the outside, to sit for a few hours at a time in various parts of the House of Commons, in order to give me independent evidence of their experience, and their testimony in every instance was unfavourable. Healthy people accustomed to fresh air, and entering a building directly from the outside, are the best possible judges as to the condition of the atmosphere inside. The unfailing effect produced on persons visiting the House of Commons and sitting there, say, for from two to three hours, is, first, a feeling of drowsiness, after which pain over the eyebrows and headache are experienced, and then a feeling of lassitude and enervation ensues. These symptoms point most assuredly to a vitiated state of the atmosphere where these people were sitting."

We have some doubt whether this is not a little exaggerated; at all events, in sitting through a pretty long debate one evening in those Strangers' seats known, we believe, as "under the gallery," we were not conscious of any of these debilitating effects; but we must admit that the House was not by any means full at the time. However, the evidence that the ventilation is not equally good in all parts of the House seems unquestionable, and the reason for it, as hinted just now, is shown to be connected with the modification of the original system of inward ventilation all over the floor, coupled with the use of the propulsion fan. When the system was an extract only, and the admission was through the dusty carpet over the whole area of the floor, it is probable that the ventflation, however unsatisfactory in other respects, was more evenly diffused than at present. Now that the admission of air is only in the centre of the floor, and that an additional impulse is given to it by the propulsion fans, Mr. Keith shows that the result is that the main body of incoming air is sent up in a column to the ceiling, which is its only organised outlet, and does not spread sufficiently to the sides, where the air is apt to remain stagnant; and thus the very means employed to assist the propulsion of fresh air into the House militate against its effectual service in purifying the atmosphere. In fact it is expressly stated that in the House of Lords, which is ventilated only by extraction, and where the admission is still through the horse-hair woollen carpet over the chief portion of the floor area, the fresh air (if it can rightly be called "fresh" after coming through that carpet) is much more evenly distributed, and there are not the same complaints as in the House of Commons. To meet this defect in the latter chamber, Mr. Keith makes what appears to us the rather curious and unscientific proposal to form other outlets under the galleries, to run the whole length of the chamber, and to be connected with the horizontal vitiated air-shafts above the division lobbies, or to the main down-cast vitiated air-shafts in direct communication with the Clock Tower up-cast shaft. He gives a section of the House, showing how the incoming air in the centre is thus to be partially deflected to right and left, to replenish the space under the galleries. We do not see that there is any certainty that it will do so. If the air is all drawn by a general extract power, it will surely take the most direct course and the course where there is the least friction, it will not go round by the conduits at the sides because Mr. Keith and the members in the side benches want it to do so, more especially when there is still the initial force pushing it vertically from the centre of the floor of the House. We do not believe this will answer, or it will only answer by chance; and we are quite at a loss to understand why Mr. Keith did not recommend the absolutely certain method of having additional *inlets* under the gallery, instead of outlets, and let the air driven in there find its way, as it undoubtedly would, to join the main column ascending to the ceiling outlets. The admission or propulsion of air into these now ill-ventilated portions of the house would be absolutely under control, and its action would be certain. We do not think the action shown on the section would be by any means certain or efficient, and we regard this feature in the proposed improvements as very doubtful indeed, and recommend the Office of Works to take another opinion before expending any money upon it.

We must repeat, however, our absolute conviction that the whole existing system of ventilation, which it is proposed to amend for the present as far as possible, will have to be re-arranged eventually, because the admission of air through the floor is a radically bad method. And we would press on those immediately concerned whether it would not be the wiser plan to reconstruct the whole ventilating system at one *coup*, rather than spend money on improving an arrangement which will never be satisfactory, and which is bound to go sooner or later.

HOW THEY BUILD AT NICE.

(FROM A CORRESPONDENT.)

NICE, as every one knows, is the little Paris on the Mediterranean where the residents of northern climes who possess cash and leisure, betake themselves to avoid the rigors of winter and to enjoy themselves.

The bulk of the building work is done during the summer, between the months of May and October, when the visitors have flown, the hotels closed, and the town is left to its normal population. There is more than one reason for this. In the first place, most of the building work consists of repairs and additions to hotels, boarding-houses, shops, and the villas of winter residents. This, of course, can only be done during the time the buildings are unoccupied; but, apart from this consideration, any builder who should be venturesome enough to carry on building operations in the winter, except perhaps in a back street, would have an agent of police told off for his special benefit, and a single stone left for a moment outside his boundary, would be quickly followed by a *contravention* and its consequent *amende*. Therefore, it is not surprising that contractors prefer to indulge themselves in a little *dolce far niente* rather than to see all their profits eaten up by *amendes*.

But when the incoming trains are empty and the outgoing crowded, then the sons of Italy swarm over the frontier, the noise of the saw and the hammer is heard in the land, and the air is redolent of Piedmontese and garlic.

The outside walls of most of the structures in Nice are built of rubble masonry and finished in stucco, the elaboration varying of course with the class of building. There are, however, some buildings having dressed stone throughout, but these are few and far between. The rubble work is solidly put together, but has not the workmanlike appearance of work done by English masons. Too many spauls are used to pack the courses, the masons not having the knack of fitting irregularly-shaped stones one in the other. The dressed work is, however, equal to anything anywhere. The stone used is a local limestone, hard and durable. Large blocks for dressed work comes, however, from the Turbia quarries. There is an excellent local lime, but good sand has to be got by rail from Golfe Juan and other places. Good bricks are only obtainable from Marseilles, and are, therefore, expensive, and little used for thick walls. Inside partitions are mostly put up with hollow bricks. These are about 9 in. by 4 in., and vary in thickness from 1¼ in. to 4 in., the ordinary thickness used being 1½ in. or 2 in. Fine mortar is used for this work, and partitions of, say, 15 ft. by 10 ft. are run up without any wood framing or binders whatever. To look at these partitions when being built, one would think that a vigorous push would cause a collapse, but in reality it would take a Samson to bring them down. The so-called fire-proof floors in good buildings are formed with iron joists about 3 ft. apart, arched between with 2-in. brick on flat, the haunches being filled in level with concrete. The floor is ordinarily tiled with 4-in. red pentagon tiles. It is, however, sometimes of cement or wood. The ceiling is formed with lath and plaster on joists in the usual way. Coke breeze and cement concrete floors have, however, been recently introduced. The roofs are covered with red tiles. This gives Nice a very pretty appearance when viewed from the surrounding heights. The old buildings have the old-fashioned taper tiles, met with all over France, but these are being rapidly replaced by Roman tiles.

The carpentry and joinery is much the same as English. The timber used is mostly Baltic; red Mélèze (larch) is, however, largely used for roofing. The roofs are not very scientifically framed, parts often being in compression when they ought to be in tension, and *vice versâ*. Pretty heavy scantling is, however, used, so that the roofs hang together by brute force. The flooring is always in narrow widths, grooved and tongued. For good floors solid oak parquet is used, laid herring-bone wise.

The joinery is, generally speaking, very good; on the whole, better than what is turned out of English workshops. The doors are not usually so thick as we make them, but the mouldings are struck on the solid and mitred, not planted on, as is usually the case here. The windows are generally casements, opening inwards, and great pains are taken to make these weathertight. Venetian blinds are usually fixed outside, and often inside shutters as well.

Plasterers' work is pretty much the same as in this country. The outside stucco work is, perhaps, better finished, marble powder being used for the best work. Marble is extensively used for staircases, window-sills, floors, &c., and exclusively for chimney-pieces. Smiths' work is done at Nice in an excellent manner. Cast-iron work is, however, mostly imported.

The gutters, flats, &c., to roofs are of zinc, and are fairly well done, but the Nice craftsmen are no good at lead-work (nor, for that matter, Frenchmen generally). If lead-work is required to be done as it ought to be, English plumbers are indispensable. The French ideas of sanitary work is also very crude and behind the age. In this department, satis-

factory work can only be done by getting men out from home.

In decorative fresco work, the Italian workman is *facile princeps*. He is in great request at Nice, scarcely a ceiling being found in all the town in plain whitewash. They are very quick at this work, covering a ceiling with a really artistic design in less time than it would take an English painter to run a few lines. In fact, the way a design grows under the hand of an Italian fresco painter is nothing short of a revelation to the untutored Briton. Cornices and mouldings are painted and shaded in such a way as to give an appearance of solidity sufficient to deceive the unwary. In one case, an acquaintance of mine, new to this kind of thing, actually mounted a step-ladder to take the profile of a cornice before he found that it was all on the flat. I am not to be taken as commending this kind of sham work. I merely mention the existence of the fact.

This fresco work is not confined to the interiors, but the exteriors of buildings are provided with a profusion of cornices, string-courses, window-dressings, &c., all equally realistic, and in some cases landscapes and other pictures in perspective are added. The outsides of most of the buildings are coloured buff. This is rather at variance with picturesque effect, the red roofs being the only break in a monotonous splash of yellow ochre.

The painting in oils does not differ materially from the same work in this country.

Building work is carried out on a different system from what obtains here. There the general contractor is not often met with, there being usually a separate contractor for each trade. A contract for a lump sum is seldom made, each trade working on a fixed tariff, and everything being measured up on completion. When a job is given out to be tendered for each one tenders so much above or below the tariff.

Little or no machinery or appliances are used (except for joinery) either in the preparation of work or on the building itself, all the materials, even for buildings four or five stories high, being carried up on men's shoulders.

Observing on one occasion a man slowly making his way up a steep run with a large stone on his back, I remarked to the contractor that in England a steam hoist would be used for that purpose. His reply was: "In England you have cheap coal and dear labour; here we have cheap labour and dear coal, so it comes to the same thing; besides, it's the custom of the country." This latter part of the reply settled it. "It's the custom of the country" is the Nice native's *ultima ratio* when defending any stupid or obsolete way of doing things, and you would be considered a very obstinate and disagreeable fellow if you continued the argument further.

A concluding word as to the comparative merits of Nice workmen. The labourers are almost without exception Italians, and are fairly hardworking. They are paid about 3½ fr. per day. A large number of masons are also Italians or of Italian extraction. These are not bad workmen, but do not kill themselves with hard work. "Why does not that man take a heavier hammer?" I observed to a foreman, pointing to a mason engaged in cutting out an opening in an old wall, and who was leisurely tapping a stone with a brick-hammer. "Oh, I suppose he thinks it would be too fatiguing," he replied in his best French, and then he mildly remonstrated with that mason in choice patois. Contractors and foremen have to be careful how they speak to their workmen, as these latter have their "syndicates," and if an employer gets on their black books he may have some difficulty in obtaining good workmen in a busy time.

At Nice it is the mason who fixes all window-frames and door casings, &c., as well as floor joists and rough roofs. The ordinary plastering is also done by masons.

The joiners are, as a rule, fair workmen, the benchwork especially being turned out very clean and strong, but the fixing is not done so well. Roofing and flooring is done by distinct sets of men who do nothing else. The roofers do their work very rough, and the floorers (*parquetiers*) are not as good workmen as they might be. The plasterers proper do only fine work in plaster or stucco. They are excellent workmen; no better could be found anywhere. The fresco painters I have referred to before, and the ordinary painters are fair workmen.

A great drawback with all the workmen is want of proper tools. You never see a joiner with a good kit, and it is very rare that a mason has a spirit-level—or, indeed, a point or chisel. Many joiners hire their tools from the master, paying so much per week.

Like the British workman, his Nice brother often goes on the spree on Sunday, and does not turn up on Monday. The "Festal" is his great temptation. All trades receive from four to six francs per day of about ten and a-half hours.

In summer the hours are from six to seven, with half-an-hour for breakfast (eight to half-past) and two hours for dinner (twelve to two), but as the winter approaches the day is shortened and the dinner-time curtailed. There is no half-holiday on Saturday. The Nice workman does not care to work on Sunday, but will do so if required.

W. I. W.

NOTES.

A GOOD deal of interest has been felt as to who would be nominated by the Council of the Institute as the next President, and we have no doubt there will be general satisfaction when it is known that Mr. Penrose is the President proposed. His life-long association with the study and exposition of the noblest monuments of ancient architecture would render his acceptance of the office significant, at a time when it is certainly desirable for the Institute to show unmistakably that there is no intention of allowing it to become a mere surveyors' society.

WHAT was to be the German "National" Monument to the late Emperor William I., at a cost of about 400,000*l.* is now apparently only to be officially an "Equestrian Statue" to the deceased at half the cost. The Emperor's draconic ruling as to the position and conception of the monument, and his selection of the artist, so thoroughly displeased the country that its Parliament distinctly refused to associate the term "national" with so unpopular a memorial, and, though not averse to voting any reasonable sum for a Pantheon or other really representative monument to the old Emperor, declined to endorse so large an expenditure as 400,000*l.* for the realisation of what they only considered their ruler's whim. That even a sum of 200,000*l.* should have been voted is practically only due to the peculiarity of the case and the enormous prestige which the *sic jubeo* of a monarch has in Prussia. It appears after all, however, that the monument when complete will be practically the same thing as was originally suggested, whether called an Equestrian Statue or a "National Monument"; and the difference in cost will probably only mean a postponement in the completion of some of the many statues which are to be found room for under the arcades surrounding the monument proper. The work is going on now at Herr Begas' *atelier*. The models from which the bronze will be cast are well in hand. The Emperor's head, three times life-size, is practically ready for the foundry, and is considered a great success.

A PAMPHLET on the Eight Hours Day, by Mr. J. S. Jeans,* written specially in reference to the late "experiments" in a forty-eight hours week, ought to be read by those who have been too much beguiled by Messrs. Mather & Platt's picture of the artisan cheerfully and economically accomplishing in eight hours what he used to do in nine hours. At Mr. Jeans' instigation a set of twelve questions were issued by the Iron Trades Employers' Association to a number of large employers, to which more than fifty firms replied. One of the questions (No. 11) was—"When the nine hours system came into force, years ago, did you find that the men worked proportionately harder, so as to produce as much with the shorter hours as with the longer hours?" The following are among the answers:—

"Not one jot more per hour than when ten hours were worked."

"No; we do not think there was ever a suggestion at that time that the men would work harder."

"No; not a fraction."

"When the hours were reduced from ten to nine, men worked no harder, but at the same even pace."

"No, decidedly not, even directly after the change, although distinctly promised."

"No, rather the reverse."

"The nine hours, when it came into operation, had with us a ruinous effect."

It is important to observe that the firms to whom these questions were put did not know that the answers were to be published. The answers, we are told, were given under the supposition that they were for the guidance of the governing body of the organisation to which the firms belonged. Another question put was—"Would it be possible to make up for the reduced time by any change in the rate of working the machinery, &c., or otherwise?" Among the answers to this question we take the following:—

"It would be necessary to introduce new machinery."

"If we knew how to increase the rate of working the machinery, we would at once do it, without waiting until the eight hours' movement is adopted."

"No; the machinery being worked to its utmost capacity, it would be impossible to make up for reduced time."

"Most certainly not. Machines are now run up to full speed; men *might* save a few minutes per day by increased attention."

"Possibly to some extent in time, but improvements in machinery and methods of doing work are continually being introduced, irrespective of hours of labour and rates of wages at any particular time, and this will always apply."

"No; the machine tools are speeded up so as to get the most out of them, consequently a reduction of the hours is a loss of production and cannot be made up."

"Impossible; cutting tools are now running up to the maximum speed, which, of course, cannot be exceeded."

Of course, every one knows that to do the work of fifty-four hours in forty-eight is not what the Trades Union leaders want. It is more and more evident that the experiment of Messrs. Mather & Platt, concerning which such a fuss has been made, was a spurt made by the men under the incitement of the promise of a permanent reduction of hours on the same wages in case they succeeded in showing that they could do as much work in the shorter time as they had in the longer. As one of Mr. Jeans's correspondents says, it was "a measured-mile trial" lasting a year. People must be very simple, or very desirous to believe, who think that it will go on at the same rate.

IT was once said that no railway official is worth his salt who cannot make figures prove *anything*, and the remarks made by Lord Stalbridge, in introducing the deputation of railway directors and managers which waited upon the President of the Board of Trade last week, tend to show that railway officials may be equally relied upon to furnish figures which shall prove nothing at all. His Lordship was explaining the views of the railway companies upon the various points dealt with by the Government Bill and other measures now before Parliament, and, upon the question of analysis of rates, plainly intimated that such analyses, when the rate in question was below the maximum, would generally be fictitious. It was asserted that the respective sums representing the conveyance and terminal charges could only be properly apportioned when the maximum

* The Eight Hours Day in British Engineering Industries. An Examination and Criticism of recent Experiments. By J. Stephen Jeans. London: Ballantyne, Hanson, & Co. 1894.

was enforced, though it is rather difficult to see why the apportionment, if possible in the one case, should be impossible in the other. The companies always had a very strong objection to analysing rates, and now that they are compelled to do so, there will always, apparently, be a "glorious uncertainty" as to the value of the information afforded. This question is closely connected with that of private sidings, an analysis being generally essential in order to ascertain the amount of rebate due for services not performed by the company. Lord Stalbridge considers it impossible to deal with such questions in a general way, and that every siding must be considered on its merits. Mr. Mundella assured the deputation that the last thing they intended was to harass the railway companies, but he thought the action taken at the beginning of last year was a great mistake—in which his hearers were probably ready to agree with him. The coalowners have also interviewed the President of the Board of Trade on the subject, and were told that the object of the Government Bill was that every rate which had been raised since December 31, 1892, should be subject to revision by the Board and the Railway Commissioners; but they could not open up the consideration of every railway rate, however long it had been in existence. But although the operation of the Bill is thus limited, it was intimated that such matters as the substitution last year of the charge for 20 cwts. to the ton instead of 21 cwts. which was formerly allowed—indeed, any alteration in practice which has effected an increase of charge—would come within its scope. Those of our readers who have been prejudiced in the matter of computation of weight of timber and stone, would thus have a right to challenge the action of the railway companies.

WE print three letters on another page calling attention to the disgraceful licence which has been assumed and allowed in the debates of the Institute by an Associate member who seems to come to the meetings mainly with the object of advertising himself and insulting other people. One correspondent, an architect who is not a member of the Institute, but who was apparently present at the meeting, asks pointedly if this person is a specimen of the architect reared and fostered by the Institute; and if so, "who would be a member of it?" Of course it is not so, but we think the executive of the Institute have brought this on themselves by their lamentable want of firmness in repressing such behaviour. We have heard the person in question (we are not going to assist his desire to advertise himself by naming him) attack readers of papers on subjects which they understood and on which his opinion was worth nothing whatever, in a manner for which he ought to have been called to order from the chair, but never was. This counts from long ago, and before the reign of the present President, whom we do not wish to accuse of anything except too much good nature. But it is a plain fact that unless this kind of thing is stopped, the executive body of the Institute will have only themselves to thank if they find that those who have a claim to be considered as artists and gentlemen decline to attend meetings where they are to be subject to the interpellations and impertinence of a buffoon.

BY the second sub-section of Section 13 of the Settled Land Act, 1890, improvements are to include "Making any additions to or alterations in buildings reasonably necessary or proper to enable the same to be let." If an improvement falls within this limitation then it may be paid for out of capital when the estate or building is in the hands of a tenant for life. In the recent case of *In re* Gaskell's settled estates, reported in the current number of the "Law Reports," Mr. Justice Chitty had to deal with some interesting questions on this point. The mansion house owned by Mr. Gaskell "was old-fashioned and in a bad state of repair," and having decided to let it this gentleman was advised that certain works were absolutely necessary if he wished to get a tenant. They consisted, among other things, of a new and efficient method of warming the house, an alteration in the main entrance which would provide a billiard-room and render the house less cold and draughty, and the restoration of the roof, which was in a most dilapidated condition. The judge held that the placing of a heating apparatus in a house could not properly be considered either an "addition" or "alteration," the billiard-room was in his opinion within the limitation, so was the new roof. We confess that there is some doubt as to the latter. "I come to the conclusion," said the judge, "that the placing of a new roof on this house, in substitution for that which for all practical purposes was not a roof at all, is an alteration to the building within the meaning of the section. This is a fair construction as between the tenant for life and the inheritance." Of course, many ingenious reasons may be advanced for and against the view, but we confess that a new roof in place of a dilapidated one is scarcely what most house owners or architects would regard either as an "addition" or an "alteration," since the latter appears to be some actual change of an existing part of the building, as the throwing out of a window on a blank wall. As to the heating apparatus, though it might reasonably be added by the Legislature to the things which may be paid for out of capital, it appears perhaps unfortunately not to be within the meaning of the Act.

THE case of the "Corporation of Sheffield *v.* Alexander and others," heard before Mr. Justice Charles and Mr. Justice Bruce the other day, an appeal from a decision of the local stipendiary magistrate, involves important issues for the Corporation. The gist of the case is that the Corporation desired to lay with new sewers certain streets which frontage owners, who would be charged with the cost of the work, asserted were already sufficiently sewered. Mr. Ellison, who appeared for the Corporation, explained that when certain of the houses concerned were built they were drained into the then nearest Corporation sewer; there was no sewer in the new street at all and the Corporation now claimed to have compulsory powers under their Act to make one. Mr. Ellison said this was an Act obtained by the local authority, and was for the making of better provision for private street works, and it would be a strange thing if the effect of the Act was to deprive the Corporation of the carrying-out of their principal duties. Apparently he took the position that the frontage owners had only power to object to the mode in which the work was to be carried out, and not to its being carried out at all; *e.g.*, if the Corporation proposed a 9-in. pipe, the owners might object to that particular form or size of pipe, we presume. The Judges, however, ruled that the power to object referred to the execution of the works, and not to the mode of executing them; that the Corporation were at liberty to make the sewers, but not to charge the frontage owners with them; that if they chose to have a uniform system of drainage for the whole of Sheffield, they could only insist on this at their own cost. This practically upheld the decision of the local magistrate. As a further appeal has been granted, we must reserve any comment on the case.

"IN the park at Clarendon," writes Camden, "are the footsteps of two royal palaces, King Manor and Queen Manor." This is the historical property of about 4,200 acres, three miles distant from Salisbury, that is now for sale. A royal forest in the Conqueror's time, it formed a favourite retreat and hunting seat of many English kings. It is notable also for having given a name to the "Constitutions" drawn up to regulate certain matters as between the clergy and laity, *temp.* Henry II., and a title to Sir Edward Hyde at his elevation to the peerage in 1661. The palace, traditionally styled King John's, must have been of considerable importance. In Sir Richard Hoare's "Ancient History of Wiltshire" (1812–21) are cited from the Pipe-rolls a payment, 30 Hen. III., of 526*l.* 16s. 5d. to one Nicholas for structural work, and another, nine years later, of 6*l.* and 1 mark for the making in New Forest of 30,000 shingles and carrying them to Clarendon to roof the king's palace, and also of 11*l.* 10s. for a further supply to the same amount. Hoare describes the ruins as being about six acres in extent, composed of masses of flint cemented together, overgrown with thorn and briar, with a lofty fragment of a flint outer wall, all lying in the south-east corner of an oblong enclosure, nearly seventy acres in area, marked out by a high ditched bank formerly retained with brick-work. Henry VIII. gave Sir William Herbert, K.G. (whose first wife was Katharine Parr's sister), the neighbouring abbey of Wilton,* and in Edward VI.'s reign Herbert created Earl of Pembroke in 1551 obtained a grant of Clarendon for his own and his eldest son's lives. In 1665 it was granted in fee to George Monk, Duke of Albemarle, whose son Christopher bequeathed it to his relative, the Earl of Bath. Lord Bath's heirs sold the estate to Benjamin Bathurst, and in that family it has long remained. In 1258 Henry III. went in state from Clarendon to the dedication of Salisbury Cathedral; and thither, during the plague, Edward III. took his royal prisoners David of Scotland and John of France. Stephen Duck, the thresher poet, worked, as some say, on the Clarendon estate; and Massinger is supposed to have passed his youth at Wilton; "many years," he says to Philip, Earl of Montgomery, "my father spent in the service of your honourable house, and died a servant to it."

WE fear it must be admitted that this year's spring exhibition of the Society of Water Colours is by no means so good and interesting as usual, although it includes, no doubt, some fine works. Mrs. Allingham's "In the Garden" (36), is a beautiful study of flowers and foliage; but the figure of a lady, larger and more prominent in the picture than is usual with this artist, is not so successful as her smaller figure of rustic life. Mr. Alfred Hunt's one contribution is a rather curious study of "Niagara, after a Long Drought" (106), with the falls showing only half the extent of falling water they are usually credited with. There is matter for study in it, of course, but the artist has done many more interesting things. Mr. R. W. Allan has been painting effects of strong sunlight in Sicily, which suit his vigorous style and strong sense of colour. Sir E. Burne Jones sends a small-size study of his decorative group of the Knights at the Chapel of the Sangraal, the life-size tapestry of which was in the Arts and Crafts Exhibition. Mr. Goodwin's contributions are "St. Hilda's Abbey, Whitby" (34), "Salisbury" (101), and some drawings on the screens of Avignon, Corfe Castle, and Mont St. Michel, the latter (227) a fine little study of moonlight effect. Mr. North seems to be overdoing his special type of effect in his drawing No. 22; this is not nature so much as a study of an artificial effect. Among the landscapes which we should select as exceptionally good are Mr. Lloyd's "Sunrise on the South Downs" (112), Mr. Thorne Waite's "Haymaking near Findon" (119), Mr. Phillip's "Rocky Pasture-lands, Badenoch" (153), equally solid in its lower portions and aërial in its sky, and Mr. Eyre Walker's "Nightfall on a Westmoreland Beck" (162), which for poetical suggestiveness combined with solid and broad style of execution, is

* Holbein designed the new house, for which Inigo Jones made a garden front. James Wyatt enlarged and altered Wilton House, *c.* 1800, for the Earl of Pembroke and Montgomery, and Westmacott arranged his collection of sculpture and pictures.

possibly the best thing in the Gallery. As a mere sketch, Mr. Henry Moore's "Off the Hampshire Coast" (185) is remarkable in its indication of the run and movement of the waves receding towards the land. Mr. Herbert Marshall contributes some of his usual studies of London street scenery, and Miss Rose Barton, in "The Royal Exchange" (167), palpably follows his lead. Mr. Weguelin's rather slightly-executed studies show, to our thinking, much more real artistic power than the more highly-finished oil-paintings in which he has appeared as a rather too palpable imitator of Mr. Alma-Tadema; that entitled "Rhodantha" (149) is a fine and original composition. Among classicalities of this type Mr. Bulleid sends a good study, fine in colour, under the title "A Morning Greeting" (1). Mr. Arthur Melville's impressionist picture of "Tangiers" (79) is as odd and not quite as clever in its kind as former efforts, or perhaps the novelty of the trick is wearing off. Among the interesting class of exhibits by eminent artists who are not primarily water-colour painters are two fine landscapes by Mr. Poynter, "Le Grand Nuveran" (15), a mountain scene, and the "Gate of the Wood" (93), which might do for the background of a scene from the "Faërie Queen." Professor Herkomer sends a head of "Daphne" (27) and a curious portrait (127) which the *Times* critic took for oil-painting (we cannot see any look of oil-painting in it), and protested against its position in the exhibition, and which we took to be water-colour worked entirely in heavy body-colour, but which Mr. Herkomer in an explanatory letter to the *Times* stated to be pure water-colour, so we presume it is executed with tube-colours laid on thick while moist; certainly it appears perfectly opaque. We hardly think the result justifies the experiment. Mr. Walter Crane's "An Unsown Harvest" (20), a study of a field of weeds, is very interesting; his figure subject called "Ensigns of Spring" (146) seems to us more suitable for one of his charming children's books than for "serious" art. Among specially architectural subjects not already mentioned are Mr. Rooke's "Mont St. Michel" (37), "West Porch, St. Stephen's, Beauvais" (137), and "A Fougères Cottage" (206); Mr. Hodson's "Tomb of the Emperor Maximilian, Innsbruck" (97); Mr. Wallis's "A Street in Cairo" (115); and Miss Montalba's "St. Mark's" (59). The same artist's sketch of "Asolo" (240) has a special interest as the scene of Browning's last poem.

"POMPEIAN Wall Paintings" formed the subject of a lecture recently delivered by Herr Ernst Berger at the Munich Architectural and Engineering Society. Latterly the discoveries of ancient paintings at Pompeii and Herculaneum have given rise to much discussion as to the method by which these works of art, which are exceedingly well preserved, were produced, and Herr Berger claims to have rediscovered the long-lost art. In the course of experiments founded on hints contained in Pliny's works, he succeeded in obtaining an extremely pliable kind of wax, which he supposes to be the so-called "Punic wax," which can be mixed with water, and on subsequent warming acquires a great consistency. Herr Berger exhibited a number of pictures on which he had employed this material. A patent has been granted to the inventor, who hopes that this method will find favour for modern decorative purposes.

WE have received a communication from the chairman of the Sanitary Committee of the Corporation of Worthing, testifying to the greatly-improved sanitary state of the town. Worthing is now supplied, we are informed, with water from new tube wells a mile to the north of the town, which has been certified by Dr. Klein to be of exceptionally pure character. Mr. Mansergh has been given a free hand in regard to the improvement of the drainage, and the whole of his recommendations have been carried out. To crown all, the Medical Officer of Health, Dr. Kelly, certifies that the death-rate for the quarter ending March 31 of this year was only 13·0 per 1,000. As some one says in the "Pilgrim's Progress," "the hearing of these things is enough to ravish one's heart."

THE ROYAL INSTITUTE OF BRITISH ARCHITECTS:

FURNITURE: DOMESTIC AND ECCLESIASTICAL.

AN ordinary meeting of this Institute took place on Monday last, at No. 9, Conduit-street, Mr. J. Macvicar Anderson (President) in the chair.

Mr. W. H. White (Secretary) having announced the decease of Mr. William Haywood, better known as Col. Haywood, the Engineer to the City of London,

Papers (under the management of the Art Standing Committee) on "Furniture: Domestic and Ecclesiastical," were then read by Messrs. John Belcher, C. F. A. Voysey, Aldam Heaton, and W. D. Caröe, M.A.

Mr. Belcher observed that furniture might be said, primarily, to have had an independent existence, and was probably first designed for a migratory condition. With the fixed and permanent abode came the interlacing of the furniture with the building, such adjuncts being recognised under the term "fittings." They were the connecting link between the building and its furniture, whether of church or mansion. For transitory purposes furniture should be selected for general utility; it should be simple and serviceable, and of average size, and such as could be readily adapted to existing conditions. In the ideal state, however, when an Englishman's castle is really his own, we might be reminded that furniture has a place among the arts, and that, with the arts, its highest and best existence was in conjunction with architecture. When the structure was properly blended with its contents, when screens and panellings, cupboards, window-seats, chimney-pieces, and things half room and half furniture were side by side, then the movable objects should bear some relation to such fittings. For this pleasant consummation the architect should direct and influence the craftsman in the important matter of scale in the movable furniture intended for general use in his building; for it was of the utmost importance that it should be in due proportion to the room it was to occupy. The selection of disproportionate furniture was one of the commonest errors into which the inexperienced fell who purchased ready-made furniture exhibited in lofty show-rooms or warehouses. The question of cost invariably met us sooner or later, generally sooner; but in the matter of furniture, like many another, it was better to have a little which was good and serviceable, than to crowd the room with "display furniture." In an old mansion, provision might rightly be made from time to time for the display of heirlooms, or choice and valuable historical treasures which have been handed down from generation to generation; but the process of first purchasing fussy cabinets with numerous shelves, brackets, and bevelled glass cupboards, and subsequently filling them with articles bought specially to occupy the voids, was pretentious and foolish. The archæological side of the subject was valuable in studying methods and examining results. It would be found that some of the best work was done between 1600 and 1660. There were in all periods certain recognised formulas which characterised good work. Mouldings, for instance, must be small and delicate, the carving soft and in low relief, with no high projections in parts or coarse bulbous forms. In all good work both form and construction were the result of long tradition, and one of the great charms was directness and evident fitness of purpose, as in the frank simplicity of the fitting up of St. Jerome's study, in the picture by Giovanni Bellini in the National Gallery. Undoubtedly furniture should be decorative; but it was an abuse of its purpose when employed as a means of decoration. After mentioning some opportunities for design, as in church furniture, organ-cases, &c., he observed that in all successful work there had been no hurry; undue haste was fatal to good work. In this hurrying and impetuous age the artist and craftsman must not be caught in the whirl, but must be content to produce slowly and deliberately, leaving to Tottenham Court-road and machinery the business of producing work in every known or unknown style as rapidly as would pall or fashion change.

Mr. Voysey, in treating of domestic furniture, said the subject was a most depressing one; there existed so little artistic reasoning. Rich and poor alike were content to order their furniture from the upholsterer, as they did their funerals from the undertaker. The result was very similar, the bill being the most lasting impression made on their minds. What they had paid was the measure of their greatness. The result of all this was that the architect, who laboured to attain dignity and breadth in his interiors, was exposed to the indignity of having all his work spoiled by the upholsterer. The client had often himself received an excellent education in decoration and furnishing from periodicals and handbooks. Therefore he felt any interference on the architect's part, in the choice of furniture and fittings, was rather an impertinence. For this state of things, in a great measure, we had to thank the spirit of revivalism. Museums and libraries, sketch-books and foreign travel, all these things, good in themselves when wisely used, were now being abused and misused to a very great extent. The god of commercialism was offering rewards all round to the best mimics. He must say here that this very condition, this imitative power which he deplored, had produced exquisite executional skill. But Art must be built up on a firmer basis. We must have a logical basis for our design in furniture; as in all else, laws must be discovered and obeyed. Then the best work would result from well-understood requirements. Things must change, and were changing. There was a widespread feeling that greater simplicity would lead to truer richness. We must restrain the carver, the inlayer, the polisher, and the metal-worker, and be careful that the thought in their design is as good as its execution. Also encourage them to concentrate ornament, and cease to use it as a means of hiding cheap construction and bad workmanship and material.

Mr. Aldam Heaton, in treating of the theory of hangings, said that we got the word "hangings" from the Mediæval house, where the tapestry hung loose, from rings and hooks. The present age had curiously transferred the word to the process of pasting paper upon the wall, where it did not hang. The use of hangings or drapery might be broadly divided under two heads:—1. An arrangement for obtaining warmth, or the appearance of warmth. 2. To break and veil the angular and hard lines of architecture, so increasing the æsthetic effect of an interior, and obtaining, at one and the same time, advantages both of form and colour. Now fabrics, to conform to the two branches of the theory, must (1) be fairly dense in texture, and in their nature suggestive of warmth and protection, and (2) they must be firm, not flaccid, and must go into good folds—the character of the folds being a matter of primary importance. The competition of the day, with its frantic haste to produce cheap and novel fabrics for the million, led to the excessive use of cotton, on account of its cheapness. A cotton fabric did not well conform to the necessities of either branch of the theory; cotton deteriorated most fabrics utterly. Of the fibres from which our yarns were made, I. wool was the most important. But what ordinarily came under that name must be broadly divided into two classes:—(*a*) Goats' hair, camels' hair, and the long wools of Iceland, Russia, England north of the Trent, and, generally, from the colder parts of Europe. This was rather straight, and was kept straight during all the manufacturing processes. We then called it "worsted." (*b*) Southdown, Saxony, Australian, and other wools from warm climates, which were comparatively short, fine in fibre, and full of wave, and were, for the most part, allowed to wriggle up and felt together, and were spun so, and called "woollen." II. Silk had, of itself, so little substance, and was so flaccid and springless that, used alone, it must either make a confessedly light and thin fabric, or an exceedingly costly one; but its lustre and texture were beautiful, as the face of a fabric, the backing being formed of long-haired wool or linen. III. Cotton was treated like long wool, the fibres being kept straight; but from its very nature it was flaccid and lustreless, and must always, as a fabric for hangings, hold an exceedingly inferior position. IV. Linen and jute, from their hard stiffness and entire want of spring, and inevitable tendency to crumple, held the same inferior position, though jute had been found competent to produce a fairly respectable velvet. In regard to decorative considerations, he should place any fabric high up in the list of what was desirable, if it went into good folds; this being a consideration of the first importance; colour and pictorial effect, though valuable, standing dis-

tinctly second. Damask weaving was too often spoiled in the endeavour to produce it too cheaply. Velvet, of course, took a high place. In regard to chintzes, the great facility with which patterns could be printed on cotton had resulted in chintzes being relegated to the bedroom, at 6d. a yard and upwards, usually on a transparent rag; but there was no reason whatever why chintz printing should not be on close and weighty worsted fabrics, and then the result would rank in the same list with worsted damasks. Lining fabrics, though manifestly of quite subsidiary importance, should follow in texture the rules he had laid down; all the more since a crisp and springy lining might make up for the want of these qualities in a soft silk fabric, which, owing to the importance of the occasion, it might be necessary now and again to accept. Yorkshire tammy and merino, made entirely from long wools, were excellent. French merino, generally used for this purpose, was as bad as possible. To sum up, he had made a list of the most available drapery materials, in order of merit and demerit, with patterns laid upon the table, marked with corresponding tickets. He would offer the following list of available materials:—

Good.—(1) Old tapestry. (2) Twills, satins, &c., made from long wool or goats' hair. (3) Woollen cloth. (4) Silk, damask or plain, if firmly woven, or backed with cross-threads of worsted. (5) Oriental kelims and other tent coverings. (6) Velvet of mohair and wool. (7) Camlet and moreen; and woollen serge, if on a worsted warp.

Bad.—(1) Cotton velvet, plain or printed. (2) Low "art" serge on a cotton warp. (3) Soft cotton fabrics generally, whether plain or printed. (4) Silk plush.

The paper concluded with some remarks on the use of hangings in houses, and more especially in the sanctuaries of churches, where he thought they should be much more used than they generally were.

Mr. Caröe, in offering some remarks on church furniture, spoke strongly against the prevailing taste for imitation Mediæval work—"art" altar rails at so much a foot, as per catalogue! "Art" pulpits in any style in stone or wood, ready for the choosing! "Art" stop chamfers, &c. He was not attaching blame to the manufacturers. It was the duty of every commercial man or company to make money out of legitimate business. He called in question the good taste, as well as wisdom, of those who accepted these things without protest. The designer of the building should design these fittings also. Articles of church furniture were not to be dealt with just as the ordinary furniture of our houses. In most instances they were essentials of the structure, often large enough—as in the cases of the organ, the reredos, or the screen—to do much to make or mar it. It seemed to him, therefore, to be the bounden duty of every architect who undertook the building of a new, or repairing of an old, church, to master every detail of its requirements, and, so far as he could, to direct the choice of every accessory, even if he did not himself do all the designing. We had before us noble examples of success, where, as at Truro, every accessory, down to the altar plate, came from the same hand; and at Holy Trinity, Sloane-square, where a master mind guided his own and the work of other artists and craftsmen and brought the whole result to harmony. In dealing with woodwork he would express his unqualified horror of that typical specialty of pseudo-Gothic, pitch-pine, and the suggestion of stain. Considering the attempted slavish reproduction of old work which marked the early days of the Gothic revival, this prevalence of pitch-pine, a wood entirely unknown to our forefathers, presented a curious problem. Purity of style had been much written and spoken about, and he thoroughly believed in it as an education for the student. But Early English and geometrical woodwork had never seemed to him much worth our study except from the archæological standpoint. Modern wood design in these styles was, in the majority of instances, a total failure. For appropriateness and fitness to the material, even the Winchester stalls, fine as they are, must give way to those glorious examples of a later period, some of which were to be found in Langton's chantry and the Lady chapel of the same cathedral. It was a special quality of this later work that, with all its richness and wealth of ornament, it was yet in perfect harmony with the severest Mediæval surroundings, because the same inherent principles were to be discovered in both, widely differing though they might be in form and expression. In regard to the most important piece of church furniture, the organ, it was remarkable that the modern builders of organs, with one or two notable exceptions, had failed so completely to recognise their responsibilities and opportunities in respect to the external appearance and fitness of their work. If the organ-builder added a case to his instrument, he dragged out a stock pattern, stop-chamfered Gothic, "*very early*," of the first quality. This, perhaps, he ornamented with some gilt-tipped ironwork, bedizened red and blue, which seemed to have had its origin in Coventry; metaphorically, perhaps, its most appropriate destination. At stencilling in varied coloured designs of the fleur-de-lys order, he had no rival. He contemplated his organ only as a huge square or oblong wind-box, and this, though he had numerous modern mechanical inventions at his disposal which made it pliable and manageable in an extraordinary degree—methods unknown to our predecessors who turned out those grand combinations and designs, so instructive for our study. Here, indeed, was a field for the architect who enjoyed openings for endless possibilities, a field which had been strangely neglected. True that it was full of technicalities and limitations which cross our path frequently; but the genial and accommodating organ-builder—when we were fortunate enough to find him—could help us to a remarkable degree. It was not only a question of the organ case; funds often failed us to provide this. But the position, arrangement, and massing of the parts of the instrument itself were of first importance. If well done, the organ left only in skeleton could be made a fine object, and need never be an unsightly one while its grouped towers of pipes were awaiting their clothing. In designing a new church, not only should the position and magnitude of the instrument be determined at the outset, but in all cases should its grouping and case appear upon the original drawings, being fully as important in effect as any other portion of the structure.

During the reading of Mr. Aldam Heaton's paper, Mr. William Woodward, an Associate Member, rose on a point of order. He wished to know what the paper had to do with the subject before them?

The President said he very much regretted that such a remark had been made. The subject they were considering was "Furniture: Domestic and Ecclesiastical," and Mr. Heaton was dealing with the subject.

Mr. Alma Tadema, in proposing a vote of thanks to the readers of the papers, said that in a biography, published about him some years ago, a learned art critic said it was a pity he took so much trouble with cabbages and furniture in his pictures. In spite of that he had not changed his style; he was still fond of furniture, and, consequently, he was proud he had been asked to say a word that evening on that great subject—the subject of their comfort and of their life, if he might say so; because beautiful as architecture might be, to live in bare walls would not suit anybody, they required something to sit upon, something to eat from, something to study from, and something to put their things away in. He had been struck with one opinion, which had raised in his mind a doubt as to how far they were entitled to minimise the value of the efforts of these days. He was before all a child of the nineteenth century. Many might think that art was principally tradition. However, let them not be hard upon those who preferred one style of days gone by to another. The Gothic building of 1825 had the stamp of that year upon it, and so it would be for all time. They must apply to their wants a feeling of the art which had gone before them, and form could only be suggested by what they had seen; therefore, let them face the future in the continuation and in the study of what had gone before. They were in the pale of a civilisation that embraced all parts of the past. They were not like people in the Middle Ages, when one sentiment reigned throughout; everybody now was free to think as he liked, and thus there was much greater diversity and expression in art. Now, when they came to furniture proper, they found there also the archæology, which a learned professor, a friend of his, told him thirty years ago, was the handmaiden of science, and, he would add, she was also the handmaiden or the teacher of art. Looking then, he saw in the development of the history of furniture that the most primitive and oldest seat they knew of—viz., the Egyptian, was hollow, very comfortable to sit in, and specially a low seat. The Oriental, again, squatted on his heels, and he knew by experience that no European could sit in this fashion, because, when he wanted a model to squat down as the Orientals did, it was impossible to find a European who could do it. The Greeks and Babylonians accepted the square seat, and then came the Romans, who had the square seat, which came down to our day, until the Americans invented the rocking-chair. From that they had come to the more comfortable seat of modern days, and he believed that in the nineteenth century still some more new forms would be invented. As Mr. Belcher had rightly said, there should be no ornamentation in the wrong place. Some friends of his brought from Germany a beautiful chair, with a finely-carved knight in the centre of the back; but when he dropped down in that chair it hurt him for twenty-four hours afterwards. To make such things was not only wrong, but simply absurd. He considered that the finest furniture was certainly of the Chippendale and Sheraton time, and he knew of one chair of the last century which would be difficult to beat for comfort. It must have been a very clever architect who designed it—he might have gone under the name of an upholsterer, but he must have been an architect to design such a structure. Architecture must supply them with houses, but it should be with comfortable houses, and with churches which should be comfortable; he meant churches in which one felt at home, not merely naked walls.

Lord Egerton of Tatton seconded the vote of thanks. He had had the opportunity of seeing furniture in most parts of Europe and of the East, and he could confirm what had been said by Mr. Alma Tadema, that some of the oldest seats were the most comfortable. He lately had had the opportunity of sitting in the marble seats in one of the theatres at Athens, where one could still see the name of the High Priest affixed to his particular seat. A good many of the seats in our churches were not half so comfortable and commodious as that provided for the High Priest at Athens, and, therefore, they had a good deal to learn from the ancients, and from all parts of the world, in regard to the comfort of their furniture. In the present day people were imitating every sort of furniture, and one of the latest crazes seemed to be to imitate everything Japanese. No doubt they owed a good deal to the Japanese in the decoration of their walls of late years, but he did not think they should, at the same time, give up some of the finest specimens of furniture in different parts of Europe, and more especially in Italy. The carvings in the stalls and sacristies of some of the churches in Italy were more worthy of imitation than anything to be found in any other part of Europe, and the Italian Government had done a wise thing in initiating a publication, *L'Arte Italiana*, which gave full-sized working drawings of the most celebrated bits of architectural furniture. This publication, he believed, would be very useful to architects and decorators in this country. The remarks which had been made that evening with regard to good and bad hangings were very valuable, and, if they could go back to some of the fine ornamental work of the last century, and the old-fashioned Indian chintzes for the decoration of bedrooms in country houses, he did not think they could adopt a better or more cheerful type. There was nothing more striking than some of the rude materials, found all over the East, and which contained patterns, designs, and colours handed down from very remote ages among people not highly cultivated or educated. These, seen under a brilliant sky, seemed susceptible of taking the most pleasing forms to the eye, and of being grouped in a most marvellous way, with a sort of intuitous skill which some of our best decorators could not surpass.

Mr. Lees Knowles said that he had been much interested by the allusion, made by the author of the second paper, to the Rhea grass. It struck him as an exceedingly nice and serviceable article, and he believed it would have the stiffness which would produce the folds that would satisfy the author of the paper. There was one point in Mr. Caröe's paper which struck him in particular, and it was this—that the clergy, at the present day, had almost too much power—if he might use the expression—with regard to their churches. He could quote the case of a college friend of his, who was the rector of a most interesting church dating back many centuries, but, in the restoration of the church, not only had the rectorial taste to be consulted, but the taste of the rectorial sisters, cousins and aunts. It struck him that such an Institute as theirs might very well take into consideration how they could deal with such a case as that, because it seemed to him that one man ought not to have the power of "restoring" a church, and perhaps spoiling many of the features which had accumulated there for centuries. In the parti-

cular instance of this beautiful old church, they had now sky-blue organ pipes, with lilies sprouting one way, and an angel blowing a trumpet, on the pipes. A new reredos had been designed, and cheapness, which was a modern peculiarity, introduced. The rector had handed the design over to a mason, and all the beautiful detail had been practically spoilt. In the case of the roofing, too, a piece of imitation had been done by the local village carpenter, while the original architect, who had been trying to repair, rather than to "restore" the church, had all the credit put down to him of the bad work.

Mr. William Woodward remarked that he yielded to no one in admiration for the perfect finish of a building in every particular, but there was a distinct difference between the architectural finish of a house and of the furniture. He sat in a very easy chair, and spent a great many hours in that chair, though it had not been designed by an architect, but by an artistic craftsman. If an architect was to carry out his duty to his clients and to himself, it would be utterly impossible for him to devote any time to designing chairs or wall or paper hangings. He would give them a problem which, no doubt, would be distasteful to those who devoted the time they should devote to buildings to designing pieces of furniture. A builder called his attention to the fact that he had sent in a tender for some work, but his tender was not accepted. In the work there was a large quantity of lead, but it was a fact that the work was carried out with lead 1 lb. less per foot superficial than his client ought to have had. Now, the architect who allowed his client to be robbed in that way, no doubt was of the kind who wasted their time in designing a table.

A Member rose to order and asked what this had to do with the subject of furniture?

Mr. Woodward said his reply was that it had nothing whatever to do with furniture, but with the business of the architect. In his own experience, the other day he had to reject two loads of bricks which were inferior in quality. He told the foreman that those bricks must not go on the building, but they were taken to the works of another architect, who permitted them to be used, at the loss of his client. He had no doubt that architect was one of the sort who designed a chair or a table.

The President said that Mr. Woodward had shown that he could appreciate furniture, because he said he had the satisfaction of sitting in an "easy chair." He would ask Mr. Woodward to confine himself to the subject of furniture.

Mr. Woodward could only say that furniture, in the nature of a chair or table, was not within the proper sphere of an architect.

The President: It is within the sphere of the present meeting. The subject of the meeting is furniture.

Mr. Woodward said he would conclude his few remarks with one observation. If gentlemen wished for a lesson in drawing, he would invite their attention to the rubbishy drawings on the walls, and to the magnificent sketches by Augustus Welby Pugin. There they would find the true architect, designing everything relating to the building, and not wasting his time and his client's money in designing rubbish, such as they saw exhibited there that evening.

Mr. Belcher asked that he might be allowed, as the opener of the subject that evening, to return his thanks for the way in which the papers had been received. As far as possible the Art Committee endeavoured to choose subjects which would be helpful to their art and to broaden and widen the views of the architect, taking his nose out of drains, and traps, and sanitary matters. He was afraid that he must plead guilty to having designed furniture, papers, and curtains, though he did not know that he had sat in his "easy chair" perhaps so long as Mr. Woodward. They had felt the subject to be a very large one, so that they were unable to particularise, much as they would have liked to have done so. Probably, on some future occasion, they might be able to take up the subjects separately, and deal with them at other meetings.

Mr. J. Clayton said that Mr. Woodward had referred to Augustus Welby Pugin. He (the speaker) knew him personally, and there was nothing Pugin delighted in so much as in designing all kinds of things which were not architecture. Chalices, chairs, tables, and everything that could be named, were things which Pugin took a pleasure in designing, and yet it did not spoil his architecture. His (the speaker's) grief was not that architects designed other things than architecture, but that they did not do so half enough. He spoke as one who had had his hand in architecture, sculpture, and painting, and if architects did a little more with the modelling clay and the palette, as well as with the T-square and the compasses, it would be better for all the arts. They knew how to sympathise with the sculptor, in the application of his art, and in that way there was to him abundant evidence that the divorce of the arts was a great grievance. They wanted architects to come out of the lines of pure architecture, and to come into the other arts, just as he would ask painters to design architecture, and sculptors to take an interest in it. The divorce of the three arts was the great disease which had affected them all.

Mr. J. D. Crace said that as a boy, he frequently saw Pugin design, and was very familiar with his personality, and with the extreme rapidity and practical aptitude with which he designed whatever he turned his hand to. What he attempted to do was apparent on those little slips of paper which were exhibited on the walls, one of which contained an almost complete design for a piece of furniture. Among the ten examples, none of which were bigger than half a sheet of cartridge paper, the most of them contained a complete design on one sheet, and not only the complete thing, in point of architectural design, but the constructional portion was shown in such a way that any person able to work well could carry it out.

Mr. Aumonier said that, in his paper, Mr. Voysey seemed to drop a remark to the effect that tradition should not be discarded. He wished to ask architects whether all great arts had not been carried on on the lines of tradition? He wished to know whether painting and architecture and all the great arts were not always worked upon tradition? Were they then to go back to a sort of babyhood of art, such as they saw at the Arts and Crafts Exhibition last summer? It seemed to him that there was no necessity to go back to the beginning of things, but it would take a great many of the modern designers to design a chair better than a Chippendale, and much of the old furniture was of the same excellent character.

The President remarked that there was an undoubted tendency, on the part of a portion of the public who occupied the position of clients, to put down the members of the profession as a sort of superior bricklayers, or even carpenters. As to being competent to advise on such subjects as decoration or furniture—far less to design them—was a thing out of the question. He thought it extremely desirable that the mind which had educed forms of proportion in a building, should have something to do with the decoration, and even with the furnishing, of that building. Nothing was, at times, so shocking, and discordant to one's feelings, as to enter a house one had taken some trouble in designing, and to find it utterly ruined by the decoration and the furnishing. Those who found time not simply to design architecture, but cognate subjects also, such as decoration and furniture, he believed were those who had not been found to occupy their time by constantly sitting in "easy chairs," but who had given their attention to designing whatever came before them, and was in relation to their building.

A cordial vote of thanks was passed to the readers of the papers, and to the various individuals and public authorities who had contributed the drawings on the walls; amongst others, to the South Kensington Museum, Messrs. J. L. Pearson, R.A., R. Norman Shaw, R.A., J. D. Crace, Aldam Heaton, W. Romaine Walker, J. Brooks, C. Krall, W. K. Shirley, C. F. A. Voysey, and G. F. Bodley, A.R.A.

The President added that the annual general meeting of the Institute would be held on the 7th of May, to discuss the annual report of the Council, to appoint the statutory board of examiners, to nominate the auditors, and to appoint scrutineers for the annual election.

The proceedings then terminated.

EPPING FOREST.—With reference to the thinning of Epping Forest, regarding which certain statements have recently been published, Mr. James Salmon, the Chairman of the Epping Forest Committee, writes:—"Four thousand eight hundred and six trees, not thirty thousand, have been felled in the season 1893-4 in Epping Forest, Wanstead, and Higham Parks (an area of about ten square miles), the greater part of these being small pollards 6 in. in diameter, and very many dead or decayed. When the cost of cutting and drawing has been paid, little or no profit remains, and last year the sum of 3,600*l.* was placed by the Corporation to the Epping Forest Fund to meet annual expenditure."

AWARDS AT THE CHICAGO EXHIBITION.

WE have at last received, through the Society of Arts, what purports to be a complete list of the awards given in the English section at the Chicago Exhibition. The awards are all of equal value, the additional complication of medals of different values having been, perhaps judiciously, avoided. We give a list of those which bear on subjects of interest to our readers. As these are picked out from a great number of different "classes," sometimes only one from one class, and as most of these explain themselves, we have not attempted classification except in the case of sculpture, painting, engraving, and architecture, which form more specially-defined groups than the others. The remainder we give under the head of "Miscellaneous," which heading refers only to our own extracts:—

Architecture.

Prof. George Aitchison, A.R.A., London; R. Rowand Anderson, LL.D., Edinburgh; George C. Ashlin, R.H.A., Dublin; Aston Webb & E. Ingress Bell, London; James Brooks, V.P.R.I.B.A., London; Ernest George & Peto, London; Thomas G. Jackson, A.R.A., London; Alfred Waterhouse, R.A., London.

Sculpture.

Edward Onslow Ford, A.R.A., London; George Frampton, A.R.A., London; W. Goscombe John, London; Sir Frederic Leighton, Bart., P.R.A., London; F. W. Pomeroy, London; John M. Swan, A.R.A., London; Hamo Thornycroft, R.A., London.

Paintings in Oil.

Miss Anna Alma Tadema, London; L. Alma Tadema R.A., London; Mrs. Alma Tadema, London; W. H. Bartlett, London; G. H. Boughton, A.R.A., London; Frank Bramley, A.R.A., Penzance; Frank Brangwyn, London; Frederick Brown, London; Lady Butler; William Carter, London; James Charles, Bosham; George Clausen, R.I., Newport; Frank Dicksee, R.A., London; Alfred East, R.I., London; S. Melton Fisher, London; Horace Fisher, London; Morley Fletcher, London; Mrs. Stanhope Forbes, London; Stanhope A. Forbes, A.R.A., London; T. F. Goodall, Dulwich; T. C. Gotch, London; A. C. Gow, R.A., London; Peter Graham, R.A., London; Arthur Hacker, A.R.A., London; Professor H. Herkomer, R.A., Bushey; J. C. Hook, R.A., Farnham; Colin Hunter, A.R.A., London; G. W. Joy, London; Yeend King, R.I., London; H. H. La Thangue, Bosham; John Lavery, Glasgow; B. W. Leader, A.R.A., Guildford, Surrey; Sir Frederic Leighton, Bart, P.R.A., London; Sir James D. Linton, P.R.I., London; William Logsdail, London; Mouat Loudan, London; Seymour Lucas, A.R.A., London; Robert W. Macbeth, A.R.A., London; Mrs. Anna Lea Merritt, Andover; Sir John Everett Millais, Bart., R.A., London; Miss Clara Montalba, R.W.S., Venice; Albert Moore (the late), London; Henry Moore, R.A., London; P. R. Morris, A.R.A., London; David Murray, A.R.A., London; W. Q. Orchardson, R.A., London; Walter Osborne, R.H.A., Dublin; W. W. Ouless, R.A., London; Alfred Parsons, R.I., London; Ernest Parton, London; Miss Henrietta Rae; John R. Reid, London; Briton Riviere, R.A., London; James Sant, R.A., London; J. J. Shannon, London; Solomon J. Solomon, London; Adrian Stokes, London; Mrs. Adrian Stokes, London; Marcus Stone, R.A., London; Edward Stott, Amberley; William Stott (of Oldham), London; John M. Swan, A.R.A., London; Mrs. Annie L. Swynnerton, London; A. Chevallier Tayler, London; Leslie Thomson, London; Wm. Holt Yates Titcomb, Balham; Henry S. Tuke, Hanwell; J. W. Waterhouse, A.R.A., London; Ernest A. Waterlow, A.R.A., London; G. Wetherbee, London; Miss E. Stewart Wood, London; Henry Woods, R.A. Venice; W. L. Wyllie, A.R.A., Rochester; Charles W. Wyllie, London.

Paintings in Water-Colours.

Mrs. Allingham, R.W.S.; L. Alma Tadema, R.A., London; H. Coutts, Windermere; Alfred East, R.I., London; Birket Foster, R.W.S., Witley; Sir John Gilbert, R.A., Blackheath; Andrew C. Gow, R.A., London; Miss Kate Greenaway, London; W. Hatherell, R.I., London; Edwin Hayes, R.H.A., R.I., London; J. Henry Henshall, R.W.S., London; Henry George Hine, V.P.R.I., London; Walter Langley, R.I., Penzance; Sir James D. Linton, P.R.I., London; Tom Lloyd, R.W.S., London; Henry Moore, A.R.A., London; Alfred Parsons, R.I., London; W. Rainey, Chichester; Leopold Rivers, London; Lionel P. Smythe, London; E. A. Walton, A.R.S.A., Glasgow; W. L. Wyllie, A.R.A., Rochester.

Engravings, Etchings, and Prints.

D. Y. Cameron, Glasgow—Etchings; Herbert Dicksee, London—Etchings; W. Biscombe Gardner, Haslemere—Wood engravings; F. Seymour Haden, P.R.P.E.—Etchings; William Hole, R.S.A., Edinburgh—Etchings; David Law, London—Etchings; Leopold Lowenstam, London—Etchings; Robert W. Macbeth, A.R.A., London—Etchings; Miss Ethel King Martyn, London—Etchings; Mortimer Menpes, R.P.E., London—Etchings; Gerald Robinson, Leatherhead—Mezzotints; Charles William Sherborn, London—Engravings; Chas. J. Watson, London—Etchings.

Miscellaneous.

Bombay-Burmah Trading Co., London—Timbers and planks of teak wood.

Farmer & Brindley, London—Egyptian porphyry; imperial Egyptian porphyries.

John Dean & Co., Liverpool—Slate slabs, plain and enamelled.

Farnley Iron Co., Limited, Leeds—Fire-clay, glazed bricks, porcelain baths.

Albion Clay Co., Limited, Burton-on-Trent—Fire-clay bricks, terra-cotta, &c.

Francis & Co., Limited, London—Cement and whiting work done in cement.

East Anglian Cement Co., Shepreth—Cement (materials, products, and tests).

Irish Portland Cement and Brick Co., Limited, Dublin—Portland cements and products.

Francis & Co., Limited, London—Portland cement and products and testing machine.
F. C. Barron & Co., London—Portland cement.
Gibbs & Co., Limited, Essex—Thames Portland cement.
The Low Moor Co., Limited, Bradford—Sections of coal and ironstone measures; pig-iron and finished iron.
Wm. Jessop & Sons, Limited, Sheffield—Crucible cast steel in bars, sheets, and forgings, and steel castings.
James McCulloch, Wolverhampton—Rio Tinto rock drill; economic air compressor.
Richard Hornsby & Sons, Limited, Grantham—Steam pneumatic rock drill.
Macfarlane, Strang & Co., Limited, Glasgow—Cast-iron water-pipe, straightway or gate valves, water meters, water liters.
B. & S. Massey, Manchester — Steam and power hammer.
Peter Wright & Sons, Dudley—Anvils.
Davies Brothers & Co., Limited, Wolverhampton—Improved galvanised iron plates and exposition of the method of manufacture.
Thomas C. Fawcett, Leeds—Patent brick and tile pressing machine.
Henry Knowles, London—Knowles's down-draught kilns.
Tilghman's Patent Sand Blast Co., Limited, Sheffield—Patent sand blast apparatus.
Sir John Fowler, K.C.M.G., and Sir Benjamin Baker, K.C.M.G., London—Model of Forth Bridge.
Cotterell Brothers, Bristol—Wall paper.
Jeffrey & Co., London—Artistic wall paper; embossed eather; leather paper.
Charles Knowles & Co., London—Art wall paper.
William Woollams & Co., London—Wall paper.
Royal School of Art Needlework, London.
Mrs. Anna Lea Merritt, London—Wall decorations.
Collinson & Lock, London—Artistic Furniture.
Gregory & Co., London—Artistic Furniture.
Hampton & Sons, London—Furniture.
George Roberts, Sheffield—Decorative furniture.
Johnstone, Norman, & Co., London—Furniture.
Miss E. Lewis, London—Unglazed tile, framed.
William Ault, Swadlincote—Artistic pottery.
Doulton & Co., Lambeth, London—Stone ware, artistic pottery.
Maw & Co., Limited, Jackfield, Shropshire — Tiles, mosaics, architectural faïence pottery.
Thomas Peake, Turnstall—Bricks, tiles, terra-cotta.
Godwin & Hewitt, Hereford—Tiles.
Arup Brothers, London — Terra-cotta ware; interior house decorations.
P. J. O'Neill & Co., Dublin, Ireland—Celtic Cross.
Thomas Pettigrue, Navan—Marble and stone monuments.
Thomas M. H. Flynn & Co., Bessbrook, Ireland—Monuments and crosses.
Mrs. Ernest Hart, Bantry, Ireland—Brass altar furniture; metal work.
Henry Holiday, London—Stained Glass.
Winfields, Limited, Birmingham—Stained Glass.
Harry Hems & Sons, Exeter—Woodcarving, sculpture.
Mrs. Ernest Hart, Bantry—Woodcarving by pupils in technical school.
John Smith & Sons, London—Bells, chimes, clocks.
Albion Clay Co., Limited, Woodville, Burton-on-Trent—Sykes' patent joint pipes.
Wm. Woollams & Co., London—Leather wall decorations.
James Stott & Co., Oldham—Gas burner and governors.
General Electrical Co., Limited, London—Electroliers and brackets.
Ewart & Son, London—Water-heater and gas-regulator.
James White, Glasgow—Electro-magnetic balances.
Epstein Electric Accumulator Co., Limited, London—Storage batteries.
General Electric Co., Limited—High insulation switches, and other incandescent house-fittings.
British Government Postal Telegraph Department, London—Collection of modern telegraphic apparatus.
General Electric Co., Limited, London—Carbons for arc lamps.
International Water and Sewage Purification Co., London—Polarite for water and sewage purification.
Commissioners of Sewers of the City of London, London—Models and drawings of works designed and carried out by Lieut.-Col. William Haywood.
Cremation Society of England, London—Views of crematorium.
Sheffield High School—Architectural drawings of school.
Whitechapel Craft School, London—Set of drawings.
British Government; Science and Art Department, London—Examples of modelling and design; examples of drawing.
St. Joseph's Industrial School, Longsight, Manchester—Wood-carving, designs, &c.
G. W. Bacon & Co., London—Collection of charts, drawings, &c.
The Art Union of London, London—Works of art, engravings, etchings, statuettes, &c.
C. E. Clifford & Co., London—Engravings, etchings, &c.
The Fine Art Society, London—Reproductions in mezzotint, etchings, and pictures.
London Colour Printing Co., London—Specimens of colour printing.
Arthur Tooth & Sons, London—Artist proofs engravings and etchings
Joseph Zaehnsdorf, London—Bookbinding.
J. S. Virtue & Co., London—Photogravures in the *Art Journal*.
Bedford Lemere & Co., London—Architectural photographs.
F. Hollyer, London—Photograph.
Robert W. Edis, London—Victoria House.
Joseph F. Ebner, London—System of attaching parquet flooring to a concrete foundation.
Arthur Culpin, Worcester—Reversible and removable window-sashes.
British Government, Geological Survey of the United Kingdom, London—Index maps, and memoirs illustrating maps; maps—Ordnance Survey of Great Britain and Ireland.
Drew & Cadman, London—Window-fittings, counters, &c.
Palestine Exploration Fund, London—Maps and publications.
Metropolitan Gardens Association, London — Map showing work done by the Association.
Royal School of Art Embroidery, Limerick—Embroidered vestments.
Cambridge Scientific Co. — Instruments for various measurements.

THE SURVEYORS' INSTITUTION.

THE following Student Candidates have passed the Examination for the Professional Associateship:—

Gerald Jas. Frederick Adams; George Beken, jun.; Herbert Owen Bell; Edward Blount; Herbert Geo. William Brinsley; Arthur Frederick Brown; Sydney George Carnell; Herbert Lee Cowell; Donald Dinwiddy; Charles Gerald Eve; John Everington; Clement Robert Finch; John Sainsbury Gilbert; Henry Alexander Glover; Geo. John Robertson Harrison;† Holland Charles Heasler; John Edward Holmes; William Jarmain;* Francis Prideaux Lightfoot; Edward Colvill Lyons; William Henry Morris; Edward Alfred Nichols; Stanley Hatch Page; William Henry Pain; Francis John Phillips; Herbert Alfred Pritchard; Joseph Wm. George Roberts; Archibald Lacy Scott; Alexander George Smith; Lewis Herbert Strouts; Charles Walter Stupart; Leonard Tewson; Claude Wm. Geo. Hugh Thompson; Roland O'Brien Thompson; William Townend; Reginald Seward Trueman; Herbert Bateson Whitby; Henry Cuthbert Williams; Leslie Stuart Wood.

The following Non-Student Candidates have also passed the Examination for the Professional Associateship:—

John Whitton Aris; Reginald Basil Astley; James William Bradley; Alexander David Bruce; Albert Ernest Butler; William James Cambridge; Theodore Gervase Chambers; Hugh Stowell Cregeen; Charles Crosier; George James Earle; Francis George Bertram Eves; Edwin William Fagg; Frederick Russell Fox; Arthur Berry Garrett; Harold Johnson Glennie; Alfred Griffin; Philip Gordon Grover; Harry Hardiman; Harley Heckford; Ernest James Heward; Alfred Ernest Jackson; Edward Henry Jackson; William Jenner; David Pugh Jones; William Henry Keep; William Henry Gustave Kieser; Anthony Edward Killick; William Arthur Leaning; William Charles May; Charles Edward Mercer; Frederick William Miller; Lewis Mitchell; Harry Alfred Newbronner; Richard Frederick Parry; William Phillips; John Jarvis Pilditch; Charles Reginald Evernden Powell; Walter Herbert Read; Alfred John Saise; John Ashton Sawyer; Alfred George Scorer; Arthur Percival Skeat; Samuel Skrimshire; Edwin James Tallent; Illtyd Thomas; Joseph Atherden Thompson; Douglas Theodore Thring; John Dronsfield Whittaker;‡ Philip Chetwood Wright; Archibald Wyatt.

The following professional Associates have passed the Fellowship Examination in Division IV.:—

John Arnott; John Evans Bidwell; Richard Elwyn Birch; Robert Edwin Brinkworth; George Turville Brown; Herbert George Coales; Henry James Cope; David Thomas Davies; Frederic Kersey Debenham; John Edmonds; Francis Ellis, jun.; Fred Finn; Herbert Archibald Finn; Harry Charles Fitt; James Herbert Furmedge Foster; William Fraser; Gilbert Gardner; Thomas Frederick Haigh; George Frederick William Hampton; Sydney Jeffree; Bernard Marr Johnson; Walter Henry Johnston; Richard Percival Morris; Samuel Frank Newman; Christopher Percival Oakley; Edward John Partridge;¶ Herbert George Potter; Richard Arnold Price; Philip Seymour Robins; John Dougal Roney-Dougal; Gerald Robert Squire; Ernest Allen Stapledon; Samuel Clifford Tee; Frederick Wilson Temple; John Watson; Edward Willis.

The following candidates have passed the direct Fellowship Examination in Division V.:—

George Herbert Leather; Henry Messenger; William Thomas Scruby.

THE following are the conditions under which the Penfold Gold and Silver Medals (endowed by Mr. Penfold with a munificent gift of 500*l.*) have been awarded in connexion with this year's examinations:—The Gold Medal, to the candidate who obtained the highest number of marks, over 75 per cent. of the maximum, in the examination in Division IV. for the Fellowship; the Silver Medal, to the candidate who obtained the highest percentage of marks, over 75 cent. of the maxima in the two divisions (considered for this purpose as one) of the Associateship Examination. The medals are being executed by Messrs. Longman, of Pall Mall, and will be presented with the other prizes at the annual meeting on May 28.

A.A. STUDENTS' ANNUAL SMOKING CONCERT.—The customary A.A. students' concert was held at Coleman's Hotel, Covent Garden, on the 20th inst. A large number of members mustered on the occasion, and a very pleasant evening was spent, under the divided chairmanship of Mr. Cole Adams and Mr. Baggallay, who were supported by Messrs. B. F. Fletcher, A. W. Earle, and other visitors. The President (Mr. E. W. Mountford), who was to have presided, was unfortunately prevented from doing so at the last moment, to the regret of all present.

† Special Prize, 1894.
* Institution Prizeman, 1894.
‡ Driver Prize, 1894, and Penfold Silver Medal, 1894.
¶ Penfold Gold Medal, 1894, and "Crawter" Prize 1894.

THE ART UNION OF LONDON:

ANNUAL MEETING AND PRIZE DISTRIBUTION.

THE fifty-eighth annual meeting of the Art Union of London was held on Tuesday in the hall of the Society of Arts, Adelphi, Mr. J. Mackrell occupying the chair in the absence of the Marquis of Lothian, the President.

The Chairman, having made a few remarks, called upon Mr. Harrison, the Secretary, to read the annual report, the opening paragraphs of which referred to the election of the Marquis of Lothian, K.T., as President, and Dr. Gregory, the Dean of St. Paul's, as Vice-President of the Society. We make the following extracts from the report:—

"The Council, in their last report, referred to the practical difficulty imposed upon their operations in several of the Colonies and in the United States by the high duties levied there upon works of art. The new Tariff Bill introduced lately in America promises a large reduction in those duties, but they remain in other countries a serious obstacle to the extension of the Society's work.

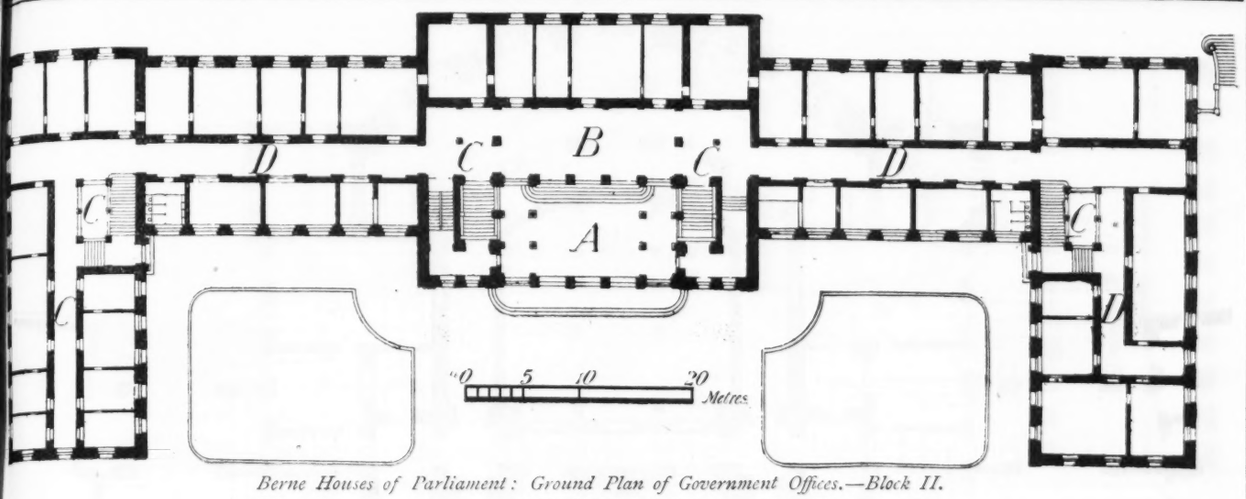
The Council have received with much gratification the announcement that the representative exhibit of engravings, statuettes, and other works of art, sent to the great Chicago Exhibition, as mentioned in their last Report, has gained for the Society the distinction of five awards of merit.

With a view to the encouragement of a branch of art which has shown more striking development in recent years than perhaps any other among British artists, the Council have lately arranged a competition among sculptors, with a premium of 150*l.*, for the best model for a statuette, copies of which will be subsequently executed for issue to members of the Society. . . . In the competition now in progress the Council are privileged to have the great advantage of the services of Sir Frederic Leighton, Bart., P.R.A., as final adjudicator, and the Society is much indebted to their President for the active part he has taken in promoting the arrangements.

The Council have for this year taken a rather unusual step in offering for the first prize such a costly work of art as the painting of Rebekah, by F. Goodall, R.A., for which the Society paid him 900*l.* They have done so in the hope of creating an interest among the members in this work, which has been evinced by the demand which has arisen for copies of the engraving, made from the picture, and of leading the public the better to realise the Society's endeavours to foster a high class of art. For the coming year the Council have secured, as the annual work for presentation to members, a work upon which the Society is to be congratulated. The subject is taken from a picture entitled "The Silver Dart," by Mr. J. Clayton Adams, which was exhibited in last year's Royal Academy Exhibition, and which, by the kind permission of Lord Westbury, the owner, they have been allowed to reproduce for the benefit of the members. The etching of this picture was entrusted to Mr. David Law. . . . .

The Council have unfortunately had occasion, for two years past, to refer in their report to the great depression which has characterised the commercial undertakings of this country and some of the colonies, and during the past year complaints have been heard on all hands of a similar stagnation in business. . . . It is therefore gratifying to the Council to be able to announce an increase in the subscriptions to the Society for the year now closing, and a considerable accession of new members to its ranks.

The Council feel that now, more, perhaps, than ever before, the Society is entitled to the support of that large public who are interested in maintaining the high position so long held by English artists in the field of engraving and black and white work generally. The rapid progress lately made in the development of photographic processes has encouraged many trade publishers to take up productions of this class, to the exclusion of the work of artists; and now the windows of dealers, formerly filled with high-class engravings, are crowded with reproductions based on photography, which are offered for sale at prices equal to those demanded for the works of distinguished artists. The advantages to the publisher are obvious; but the public should know that these mechanical productions, though they may be copies of fine pictures, are not, in themselves, works of art. Few would deny the claims of modern photographic reproductions (many of them triumphs of scientific and mechanical manipulation) to a certain decorative value, and to a high place among the various modes of preserving faithful records of paintings; but that place is not, and can never be, the one occupied by the trained and inspired work of the individual artist. To consider the two as directly comparable is to ignore those qualities of individuality in treatment, which only the hand of the artist can yield, and which forms the broad line of distinction between art and mechanism. These have endowed the works of the great masters of the needle and graver with an intrinsic interest which compels the attention of every observer, and which will ensure their being treasured by future generations when perhaps the photogravures of to-day will have receded into the position of the chromo-lithographs of forty years ago.



Berne Houses of Parliament: Ground Plan of Government Offices.—Block II.

REFERENCES.

GROUND FLOOR PLAN.—BLOCK II.

A. Vestibule. B. Inner Hall. C. Staircases. D. Passages.

The system of the Art Union of London tends to an exceptionally wide distribution of its works to all parts of the world where English is spoken, and the Council feel that a serious responsibility rests upon the Society to ensure that in its productions the reputation of British art shall be jealously maintained. The share of this responsibility which falls upon the individual members of the Society is twofold: first, in the general duty of maintaining, and helping to extend, the support given to the Society in its corporate capacity, to enable it to preserve a high standard in the work produced in its name; and, further, in the special case of those to whom prizes fall, the duty of selecting pictures with such care and judgment as to ensure that the Society's system shall operate for the encouragement of the best artistic work available."

The Chairman, in moving the adoption of the report, stated that during the past year 500 new members had joined the Society.

Mr. T. Buxton Moorish, Hon. Sec., seconded the motion for the adoption of the report, which was agreed to.

Votes of thanks were accorded to the Honorary Secretaries, Mr. John Sparkes and Mr. T. Buxton Moorish; to the Secretary, Mr. Harrison, and the officers; and to the Society of Arts for granting the use of the lecture-hall for the meeting.

The drawing for the prizes was then proceeded with, the first prize (Mr. F. Goodall's "Rebekah") falling to Mr. C. A. McBeam, of Walworth.

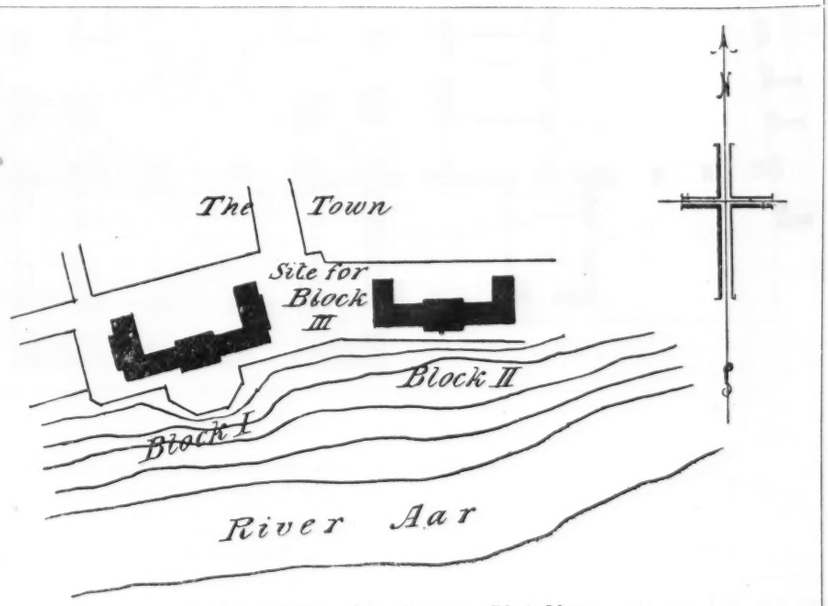
COMPETITIONS.

TOWN HALL, HAMMERSMITH. — We are informed that it has been decided that the plan of the proposed Town Hall accepted by the Vestry shall be sent to the London County Council for approval, but that no further steps shall be taken in the matter "for the present." At a stormy vestry meeting when this was decided it was explained that the phrase "for the present" meant "until after the election in November."

BLACKPOOL NORTH SHORE.—We understand that the design for the North Shore works, Claremont Park, Blackpool, submitted by Messrs. Mangnall & Littlewoods, and Mr. E. G. Stead, both of Manchester, as joint engineers, has been selected by the Corporation of Blackpool as one of three out of some twenty designs submitted for further consideration and final decision. The estimated cost of the works is 50,000*l.*

BUILDING ESTATE AT KINGSTON-ON-THAMES. —The Artisans' Land and Mortgage Corporation, Limited, received sixteen sets of designs in this competition in response to their invitation to architects. The directors appointed Mr. James Edmeston, of 42, Old Broad-street, E.C., assessor, who awarded the first premium to Mr. F. Tupper White, of Herne Hill; the second to Messrs. Philip A. Todd and Frank Lishman, of 64, Great Queen-street, Westminster; and the third to Mr. W. M. Seaman, of 8, Bettridge-road, S.W., which adjudication the directors have approved.

THE SANITARY INSTITUTE CONGRESS.—For this Congress, to be held at Liverpool, commencing September 24, Mr. G. F. Deacon, M.Inst.C.E., has accepted the presidentship of Section II.—"Engineering and Architecture."



Berne Houses of Parliament: Block Plan.

Illustrations.

DESIGN FOR WALL-PAPER AND FRIEZE.

THIS design is based on the natural form and colour of the Yellow-Horned Sea-poppy (called "horned" on account of the peculiar form of the seed-vessel); the colour of the blossom is a pure yellow, while the leaves of the plant have a cobalt blue-grey bloom which characterises many sea-loving plants. These colours were retained for the blossoms and leaves respectively in the original coloured design, of which this is a monochrome reproduction; the background, where it is shown, being a much deeper shade of the blue-grey.

In connexion with this design Mr. Gwatkin writes to us in regard to a practical point:—

"The attempt to use transparent colour in the printing or stencilling of wall-papers has hitherto been attended with very little success. The difficulties are well described in the *Magazine of Art* of April, 1892, by Mr. Lewis Day, who, in criticising attempts of mine, writes:—

'You cannot by stencilling in water-colours make sure of uniformity of tint; the inequality of transparent colour, as compared with flat distemper tint, is, indeed, its charm, but when you come to hang one breadth of stencilling in water-colour by the side of another there are sure to be differences of depth which draw undue attention to the joints, and give the appearance of stripes.'

After this criticism, quite kindly offered by the father of the subject, I gave up the attempt until lately, when an idea occurred to me of controlling these differences of depth, or, rather, of rendering them unobjectionable. The proof of the design you have sent me, which was drawn for transparent colour, now that I have marked the joint down with my pen,* illustrates the means adopted, which, I am glad to say, has entirely removed Mr. Day's objections to the use of transparent colour work. I find a wall-paper designed to be produced by this method shows its joints less evidently than the ordinary block-printed paper.

It may occur to you that trimming is rendered very difficult by the intricacy of the joint, but this is overcome by the use of a knife and a metal template. The increased cost of hanging is about half as much again as in the ordinary way."

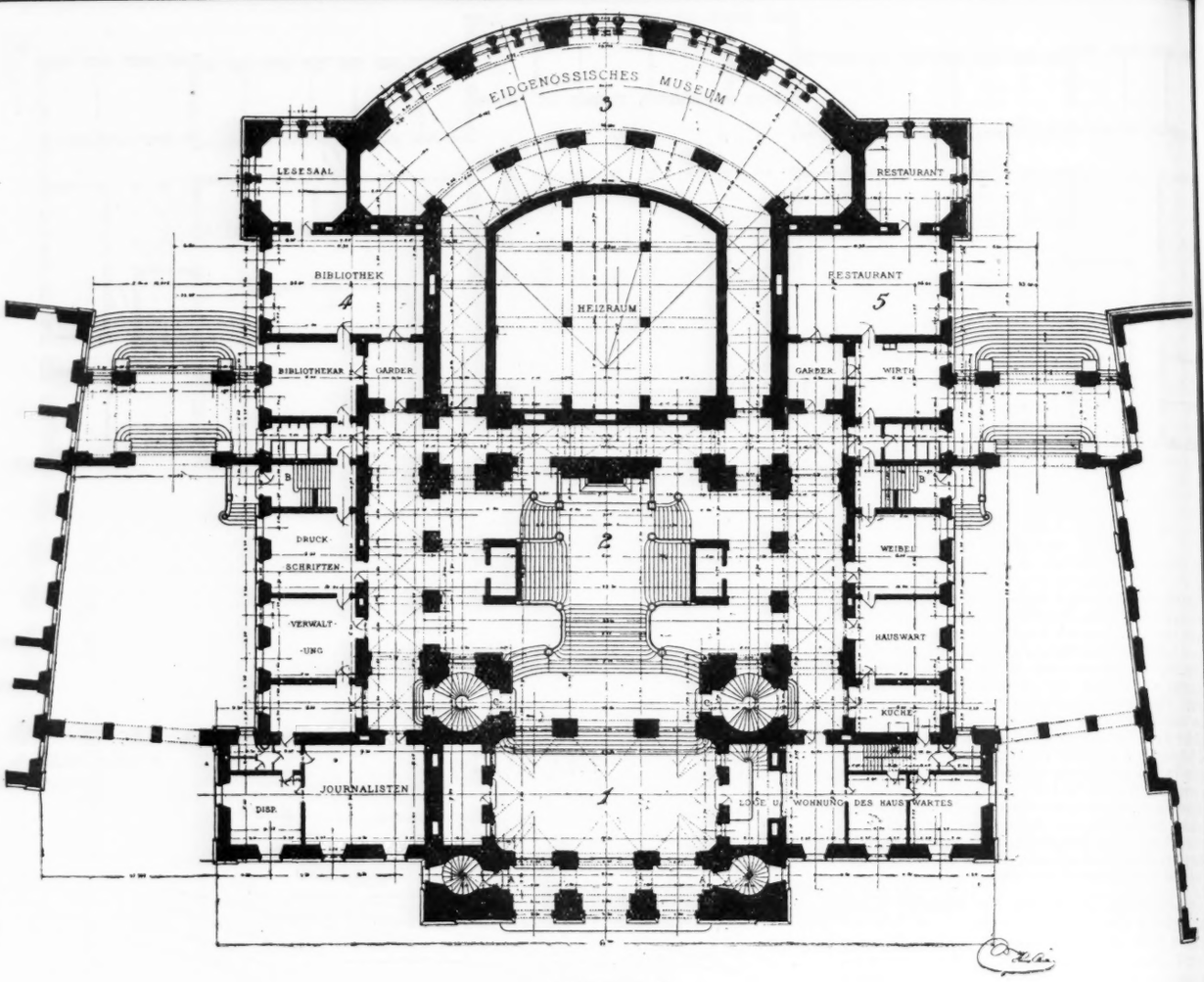
THE NEW HOUSES OF PARLIAMENT, BERNE.

OF the several new public buildings under discussion in the spring session of the Swiss Parliament, and now definitely sanctioned, the most important one was the proposed new home for the country's representatives, who are at present housed in the older of the two large Government blocks at Berne. These have, until to-day, together served as the combined legislative and administrative centre of the Republic.

The new house, which is to be an extension, or, more properly, "junction," between the two blocks, is to be Switzerland's *bonâ-fide* "Houses of Parliament," and the idea is that this block, together with the two older ones, which will then be used for administrative purposes only, should be treated as one architectural group.

The position of the two existing blocks is certainly unique, situated as they are some 120 yards apart on a height overlooking the valley of

* The joint is carried round some of the lines of the floral design, somewhat as in leading a pattern in a window, instead of making a straight joint direct through the pattern.—ED.



GROUND FLOOR.

Berne Houses of Parliament: Plan of proposed New Buildings—Block III.

(For Scale, see First Floor Plan, p. 329.)

REFERENCES.

GROUND FLOOR PLAN.—PROPOSED BLOCK III.

1. Vestibule. 2. Hall. 3. National Museum. 4. Library. 5. Refreshment Room.

the Aar, with the Alps beyond. The ground between the two blocks can now be had, and the Swiss Government may well be congratulated for at once encouraging what will not only fulfil a long-felt want, but at the same time be the realisation of a monumental group of buildings. The design we illustrate is, we believe, the outcome of a limited competition between Professor Bluntschli, of Zurich, and Professor Auer, of Berne. Professor Auer's design has been given the first place after much discussion. He was the architect of Block No. II., which was completed two or three years back, and of which we also now take the opportunity of showing some views.

The oldest block, No. I., was built in 1852-1857 by Messrs. Stadler & Studer, to contain both the Administrative offices of the Government and the two Council Chambers used by the people's representatives. Block No. II. was practically an extension necessitated by the dearth of office accommodation.

The ground floor plan of this Block No. II. explains itself, containing, as it does, simply a row of offices with ample passage space and staircase accommodation. On this floor the architect only made a feature of the vestibule and inner hall, in which he relied to a certain extent on the colouring of the materials. The vestibule we illustrate. The first floor plan repeats itself with the exception of the central part, which contains a large committee room. Over "B," the inner hall, is a *foyer* which has also been made a feature of by the architect. Of this part we likewise show a drawing—*i.e.*, the view towards the openings overlooking the vestibule below. The block has façades of a national stone, and is built as strongly as possible. The elevations had, to a great extent, to match those of Block No. I. with the exception of the centre, where a slightly different treatment was allowed. The total length of this building is 108 mètres, or 354 ft., the vestibule measuring 15 by 8 mètres, or 49 by 26 ft.

As to the proposed Block No. III. we understand that Herr Auer has already practically given part of his time to its planning for some ten years, commencing with his design for the open competition in 1885, which received the second premium, and then his drawings for the limited competition in 1891, which procured him the commission for the work.

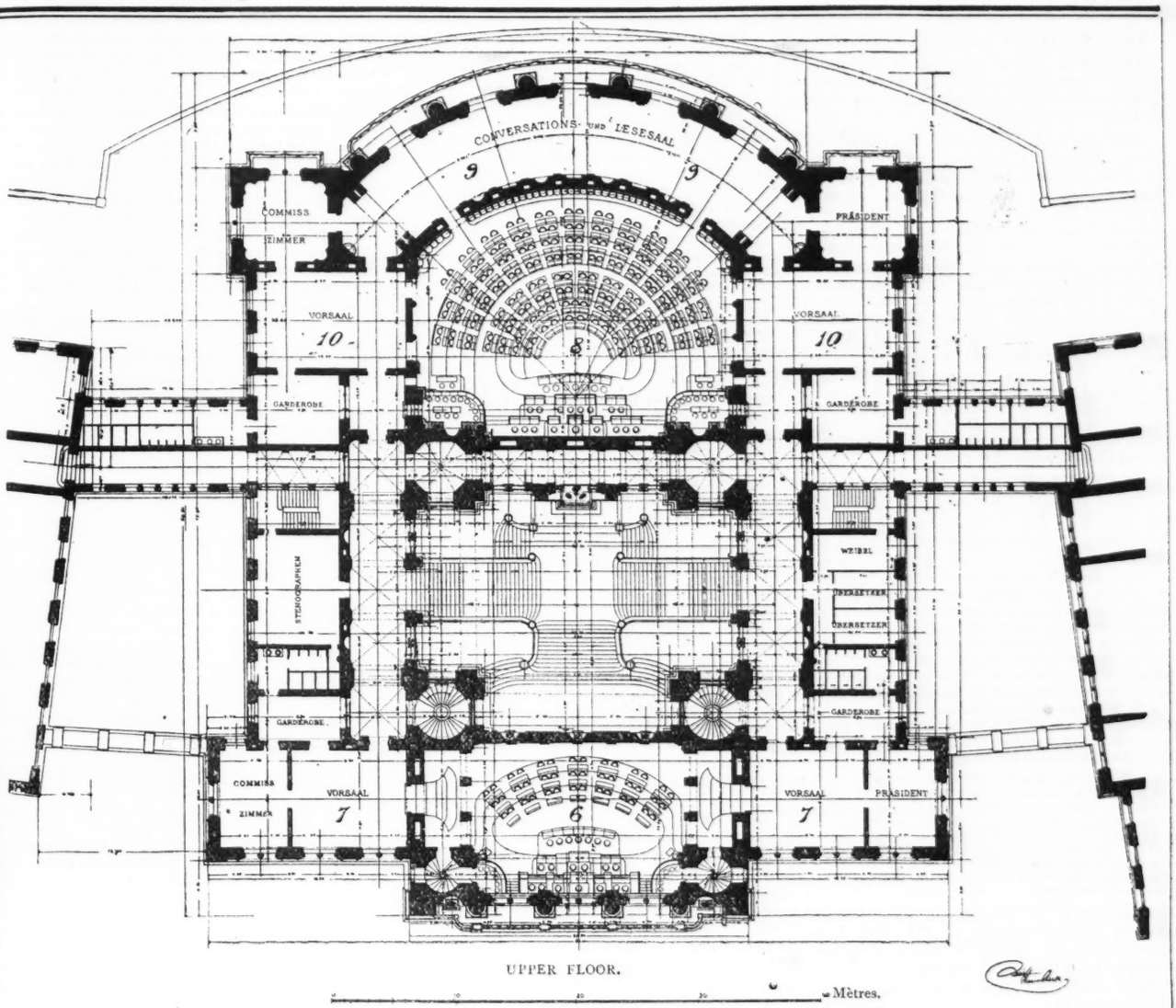
The block plan indicates the relative positions of Blocks Nos. I., II., and III., and the general view shows how the group will be seen from the opposite bank of the River Aar. Another shows one side of the proposed grand staircase leading up to the level of the Council Chamber. The two plans reproduced are taken on2 on this floor, the other at street level.

On entering the building from the town the visitor, after passing some outer lobbies, reaches the main vestibule. On the one side of this hall there is a spacious porters' office. From the vestibule the grand staircase is reached, which is to be the feature of the building. Mounting it the visitor finds himself in some spacious corridors leading on the one side to the "Upper," on the other to the "Lower" Chamber. The Upper Chamber facing north has its own lobbies, cloak-room, small committee-room and a President's parlour. It has its small public and private galleries, which have separate approaches by way of two minor staircases off the first-mentioned outer lobbies. This Chamber is side lighted. At the opposite side of the building, surrounded by its own spacious reading-room, two inner lobbies, cloak-rooms, small committee-room, and chairman's parlour is the large Council Chamber. This hall is top-lighted, measures 25 by 20 mètres, or 82 ft. by 66 ft., and holds seats for some 180 members. The reading-room measures 131 ft. by 20 ft.; each of the inner lobbies, 39 ft. by 26 ft. There is again good gallery accommodation, the approach being by means of two separate public staircases. One of these is also for the special use of the shorthand clerks, who have a large room on this floor. The pendant to their room is the usher's room. There is a connecting passage between the east and west of the block, with openings overlooking the grand staircase. This passage is also the main communication between the existing blocks, No. I. and No. II., which are connected on this level with the proposed building. The central corridors of Blocks No. I. and No. II. line with the passage.

The second floor of the new block, where not cut into by the upper part of the Council Chambers with their galleries, has only been utilised for committee-rooms, of which there are ten of various dimensions.

On the ground-floor level room has been found on the south front for a small national collection. There is also a library and a small refreshment-room on this level. The Parliamentary printers and the Press have very ample offices on the west side of this floor, whilst the east has been taken up by the various offices and a tenement of the caretaker. Strange to say, there has apparently been no necessity to find space for the post, telegraph, and police-offices usually found in Houses of Parliament, as in the case of the new "Reichstaghaus," at Berlin, of which we published some drawings in January; and but little provision is made for the comfort of the individual member. The large reading-room on the first-floor is practically his only luxury. There is, however, good lavatory and cloak-room accommodation throughout the block.

The elevations of the building, which are to be carried out in a national sandstone, are designed in what the architect terms the Renaissance style of the end of the fifteenth century—*i.e.*, the period in which the Peace of Basle figures so prominently in the history of Switzerland. The interior is to be of a somewhat later date, and, as in the case of Block II.,



Berne Houses of Parliament: Plan of proposed New Buildings—Block III.

REFERENCES.

FIRST FLOOR PLAN.—PROPOSED BLOCK III.

6. Small Council Chamber. 7. Lobbies. 8. Large Council Chamber. 9. Reading Room. 10. Lobbies.

will, to a certain extent, depend on the colour-study. The materials used will here again be national ones; marble-work will be used a great deal, as also the woodcarving in which the Swiss are very proficient. A number of historical frescoes are to play an important part in the appearance of the building.

Speaking of the cost, but little can at present be said, but according to the architect's estimate the sum of 5,000,000 francs need not be exceeded. Whatever the price may be, the Swiss can certainly be proud of the fine *ensemble* their Government is creating at their interesting capital. What with this new block, the new museum, its public offices and bridges, the Swiss capital will soon have a stately array of architectural monuments situated in about as fine position as can be found.

ARCHITECTURAL SOCIETIES.

ARCHITECTURAL ASSOCIATION SOIRÉE.—We are asked to draw attention to an unavoidable change in the *locale* of the soirée on May 4. Through some misunderstanding the Westminster Town Hall, where the soirée was to have been held, is not available, and the entertainment will take place at the Holborn Town Hall instead.

EDINBURGH ARCHITECTURAL ASSOCIATION.—On the 21st inst. the Edinburgh Architectural Association visited Sir Charles Tennant's Peebleshire residence, The Glen. The mansion is situated in the valley of the Quair, the nearest railway station being at Innerleithen. The major part of the present mansion house was erected in 1854 from plans by the late Mr. David Bryce, architect, Edinburgh, and eighteen years later it was enlarged from designs by Mr. John Bryce. It is a Scottish Baronial edifice, built with Swinton stone. After a glance at the rural entrance lodge, and the approach, a move was made by the members of the Association for the house. The entrance-hall, panelled in oak, and with a billiard-table, first attracted attention, and then the drawing-room in the southern wing was visited. The windows of this room command the Quair valley. A visit to the library, with its oaken bookcases, was next followed by a survey of the dining-room. Retracing their steps to the hall, the party next ascended, by a fine oak staircase, to the floor above, where various rooms were inspected. After inspection of the house, and the architectural features having been closely scanned, an ascent was made to the flagstaff tower, and subsequently the gardens were visited.

ENGINEERING SOCIETIES.

LIVERPOOL ENGINEERING SOCIETY.—At the meeting of this society held on the 18th inst., Mr. Thomas Duncanson, Assoc.M.Inst.C.E., read a paper entitled "Notes on the Distribution of Water Supplies." The author first gave data as to the quantity of water required to be provided for the supply of a district and the variations in the rates at which it must be supplied, showing that the maximum rate at any hour during the year exceeds the average by about 85 per cent. He then spoke of iron distributing and service mains, the rules for determining their sizes and their rates of deterioration, the various classes of house service pipes and how to protect them from frost. Some experiments on service pipes were described, which showed that lead pipes likely to be exposed to the effects of frost should be made of greater strength than was necessary if only the hydraulic pressure to which they were subject was considered. He then dealt with hot-water supplies, advocating the use of low-pressure arrangements or of high-pressure boilers with safety valves under proper inspection, so as to avoid the dangers of explosion. House sanitary arrangements were discussed from a waterworks point of view, and the author showed that, if properly utilised, the allowance of two gallons per flush for closets was sufficient.*

CHRIST CHURCH, DUBLIN.—Some of our Irish readers take exception to our remark that Christ Church presented less of ancient interest than St. Patrick's; we should explain that the remark had special reference to the exterior, which is what we are illustrating. The view of St. Patrick's which we gave at the commencement of this month, included some unrestored work; that of Christ Church, which we shall give next week, is practically all Street's work, as far as exterior appearance goes: hence our remark, and our giving Christ Church the second place.

NEW PUBLIC GROUNDS FOR HARROGATE.—The Corporation of Harrogate a short time ago secured the property known as the Crescent Estate, with the object of securing a free public garden in close proximity to the wells and baths. A scheme for laying out the ground has already been placed before the Wells and Baths Committee by the Borough Engineer, Mr. S. Stead. The ground proposed to be dealt with is situate between the Spa, Victoria Baths, Swan-road, and Crescent-road, and is 600 ft. long by 220 ft. wide. The gardens are to be of an ornamental character, with a large central fountain, pump-room, shrubberies, grottoes, bandstand, &c., and provides, if thought desirable, for utilising the present Town Hall Theatre as a permanent museum or art gallery.

* No doubt, "from a waterworks point of view."—ED.

THE LONDON COUNTY COUNCIL.

THE usual weekly meeting of the London County Council was held on Tuesday in the County Hall, Spring-gardens, Mr. John Hutton, Chairman, presiding.

Fleet Sewer (Caledonian-road) branch.—The Main Drainage Committee reported that on December 19 last the Council approved of the deepening of a portion of the Caledonian-road branch of the Fleet sewer at the then roughly estimated cost of 3,600*l.*, and instructed the engineer to prepare plans, specification and estimate. These have now been completed. The total length of the new sewer will be 1,417 ft., extending from Charlotte-street to Bingfield-street, and the cost of the work after measurement is estimated at 6,750*l.* The Committee recommended:—

"That, subject to an estimate being submitted to the Council by the Finance Committee as required by the statute, the work be carried out by the Council without the intervention of a contractor, and that the plans, specification, and estimate be referred to the Works Committee for that purpose."

The recommendation was agreed to.

Vacant District Surveyorship.—The report of the Building Act Committee contained the following paragraph, the recommendation being agreed to:—

"The Council on March 13, 1894, referrred back o us a recommendation which we then submitted with regard to the appointment of a district surveyor for the district of St. Pancras North and the detached portion of Clerkenwell. The gross amount of fees yielded by the district has averaged during the years 1890-92 190*l.* per annum. This amount is so much below that contemplated in standing order 189 that we do not at present see our way to recommend the appointment of a district surveyor under the new conditions for the vacant district. We therefore submit the following recommendation—

'That, until some permanent arrangement is made by the Council, Mr. Grose, District Surveyor for St. Pancras East, be appointed temporary District Surveyor for so much of the vacant district of St. Pancras North as lies south of the Tottenham and Hampstead Junction Railway, and that Mr. Hammond, District Surveyor for North-west Islington, be appointed temporary District Surveyor for the remaining portion of St. Pancras North and the detached portion of Clerkenwell.'"

Enlargement of Clerkenwell Fire Station.—On the recommendation of the Fire Brigade Committee it was decided to enlarge and alter the Clerkenwell Fire-Engine Station, the work to be done by the Council, and without the intervention of a contractor.

Electric Lighting Installation for the Victoria Embankment.—The Highways Committee reported as follows in reference to this question:—

"The Council on April 10 instructed us to consider the adviseableness of widening the footways of the Victoria Embankment by taking in a few feet of the carriageway on each side, in order to allow the electric light standards to be placed on the sides of the carriageway without interfering with the trees. With reference to this suggestion we would point out that the footways are of great width, 20 ft. on the river side and 16 ft. on the other, and in order that the lamp standards might be clear of the trees the width of each of the footways would have to be increased by 8 ft., and that of the carriageway correspondingly reduced from 64 ft. to 48 ft. Having regard to all the circumstances, we are of opinion that it is not advisable that the course indicated in the reference should be adopted. We understand that the Parks Committee has now under consideration a suggestion that some of the trees should be removed to facilitate the proper growth of the remainder; and we think it advisable that, until some decision shall have been come to upon this suggestion, the further consideration of the question of the positions to be occupied by the lamp standards should be deferred."

The River Thames.—The Main Drainage Committee's report contained the following paragraph, the recommendation being agreed to:—

"We have to report that the systematic examination of the water of the river Thames between Teddington and the Nore, which was undertaken under the authority of the Council, was continued until the 21st of March. As the examination was commenced during a period of drought when the sea water in the river was at its highest, and as the value of the work would be largely enhanced by following the decrease of sea-water until the minimum was reached, we considered it desirable, after conference with the engineer and chemist, to have the analysis of the water continued until the evidences of the presence of sea water were reduced to a point which experience had shown to be the lowest, and thus obtain information as to the state of the river under both extremes of condition. The total expenditure thus incurred in collecting and analysing samples, beyond the sum already authorised by the Council, together with the wages of an assistant until about the end of June in tabulating the results, amounts to nearly 250*l.* We recommend—

'That, subject to an estimate being submitted to the Council by the Finance Committee as required by the statute, the course taken be approved, and that the additional expenditure be sanctioned by the Council.'"

London Streets and Buildings Bill.—The Parliamentary Committee brought up a report, one of the paragraphs of which related to the London Streets and Buildings Bill. It was as follows:—

"We have received from the Joint Sub-Committee of this Committee and the Building Act Committee, suggestions for amendment of Clause 175 in the London Streets and Buildings Bill relating to the storing of wood and timber. The amendments affect paragraphs 3 and 5 of the clause which in the Bill as approved by the Council are as follows—(3.) All yards in which timber, lathwood, firewood, casks, or barrels are stacked within 20 ft. of the public way shall be separated from the public way by brick walls not less than 9 ft. in height with the exception of the necessary gates, and no timber, lathwood, firewood, casks, or barrels shall be stacked upon or so as to project over such walls. (5.) No part of any pile, stack, or store of timber, lathwood, firewood, casks, or barrels shall be within 10 ft. of the top of any chimney, and if such pile, stack, or store exceed the height of the chimney, the height above the chimney-top shall not be greater than the horizontal distance of the face of such pile, stack, or store from the top of the chimney, The sub-committee proposed the insertion in paragraph 3, after the words "public way" in line two, of the words "and within fifty feet of any building on the further side thereof," and they also proposed to omit all words in paragraph 5 after the word "chimney" in line two. We have carefully considered the matter, and are of opinion that it would be better to omit the paragraphs altogether if by so doing opposition may be avoided. We have accordingly instructed the agent to intimate to the parties who have petitioned against the clause that on their giving an undertaking to withdraw their opposition the Council will be prepared to withdraw the paragraphs in question. We recommend:—

'That the course taken by us in so instructing the agent be approved.'"

Mr. W. Crooks asked what had become of the clause in the new building act in reference to non-combustible signboards.

Dr. Longstaff replied that the clause had been withdrawn.

Mr. Beachcroft said he considered the report most unsatisfactory. Were they to understand that, in order to avoid opposition, the Council were going to withdraw important paragraphs from the Bill? Surely it would be better, if the sub-committee had carefully considered the matter, to admit some amendments rather than withdraw the whole paragraph or clause, so that opposition might be avoided altogether. He, therefore, moved "That, in the opinion of the Council, paragraphs 3 and 5 of Clause 175 in the London Streets and Buildings Bill, relating to the storing of wood and timber, should not be withdrawn, but that the amendments proposed by the Joint Sub-committee should be agreed to."

Mr. Yates seconded the amendment, which, after a short discussion, was agreed to, twenty-nine voting for it and twenty against.

The Water Question:—The Water Committee stated that at the meeting of the Council on March 20 they reported the substance of the answers which they had received from the Grand Junction, the East London, and the Southwark and Vauxhall water companies to their letter communicating the resolution passed by the Council on February 27 with regard to entering into negotiations for the purchase of the companies' undertakings. The committee had since received the following further replies.—From the Chelsea Waterworks Company stating that the directors would be averse to the transfer of their undertaking, but that, if the Council should think fit to make them any definite proposal, they would give it their most careful consideration; the Kent Waterworks Company, stating that the directors, while unable wholly to adopt the bases submitted, and having no reason to desire to part with their property, would give their best consideration to any fair and reasonable proposals the Council might submit to them, but that they deemed it premature to enter upon negotiations for the sale of the company's undertaking by agreement until the Council or some authority has been empowered to make and carry such agreements into effect, and until the questions relating to the subsequent administration of the water supply in the company's large extra-metropolitan area have also been settled; the Lambeth Waterworks Company, stating that the directors had no power to enter into a binding contract for the sale of the undertaking, and therefore consider it undesirable and inexpedient to enter upon negotiations for the transfer thereof; the New River Company, stating that, while the company were unwilling to sell their undertaking, they were prepared to give full and careful consideration to any communication which the Council might desire to make, but that the directors must distinctly intimate that the conditions laid down in the resolution of the Council could not be accepted by them as the basis of negotiation; and from the West Middlesex Company, stating that, although the company were unwilling to sell their undertaking, the directors would not fail carefully to consider any definite proposal that the Council might think fit to make to them on the subject. All the companies having now answered the communication, the committee were considering as to the further steps to be taken to give effect to the Council's resolutions.

The Council adjourned shortly after seven o'clock.

Correspondence.

To the Editor of THE BUILDER.

CHURCH OF ST. JOHN, DAMASCUS.

SIR,—I am afraid I misunderstood Mr. Lethaby's reference to the clearstory windows on the east and west sides of transept. On the west side, according to a drawing in "Picturesque Palestine," they are only partially blocked out by roofs which (to judge by the pitch and external lead covering) were raised at the same time as those over the transepts, probably in the sixteenth century. In their original condition they left the windows quite free, and their arrangement suggested the probability of an earlier building on the west side, viz., Arcadius' church.

The columns of the north front of north transept and of the arcades of the eastern nave have lofty dosserets or impost blocks above the capitals, which are of the same proportion and style as those of the arcade round the great northern court, which, we know, was built, together with its great enclosure wall, by Walid in 705; and, therefore, I attributed them to the same period. My own drawing, published February 17, shows no dosserets, and I have no view from which to decide whether there are any in the west wing. Mr. Lethaby assumes that the great court on the north side existed as such in Arcadius' time, but there is no proof of this, and as we know that Walid enclosed this court with a wall and built the arcade, he probably cleared the space for that purpose. The arcade is possibly built on the lines of the enclosure of the temenos of the Roman temple, but this same enclosure can still be traced on the south side, which was left undisturbed by Walid. It is for this reason that I am quite unable to accept Mr. Lethaby's arguments relative to the placing of Arcadius' church in a court which at that time may not have existed. The church having been built between the Roman temple (of which three doorways still exist) and an ancient structure, possibly a tower at the south-west end, I can see no difficulty in building the east side of the church so that the eastern wing should correspond exactly in dimensions with that already existing at the west end; leaving a space in the centre and in the axis of the great court enclosed by Walid on which the latter erected the transept as we now find it. In fact, the peculiar planning of the transept piers, with the arches they carry, almost prove that there was some reason why, at their base, they did not form a square on plan.

The rebuilding of the north wall of the western aisle, and its being thrown open to Walid's court through arches carried on columns, is in accordance with the custom observed in all mosques such as is found in that of Amer at old Cairo; El Aksah, Cairo; of Cordova in Spain, of Kerouan in Barbary, and of numerous other well-known examples. Here in Damascus, however, as in Jerusalem, the climate was found to be too cold in the winter to allow of it, and therefore the columns were encased in masonry and doors added. I still adhere to my contention that in Arcadius' time the workmen were not capable of throwing arches of the span of 45 ft. Mr. Lethaby cannot see any difficulty in constructing a dome of such dimensions at any time between the building of the Pantheon at Rome and the Sophia at Constantinople. Why, then, was Constantine, who ultimately completed the great vault of the Temple of Peace at Rome, so helpless when he removed the Empire to Byzantium, that he was actually incapable of building any structures but of the most ephemeral kind, so poor in construction that, even in Justinian's time, they were either in ruins or had to be taken down and rebuilt? My dimensions of Bethlehem were taken

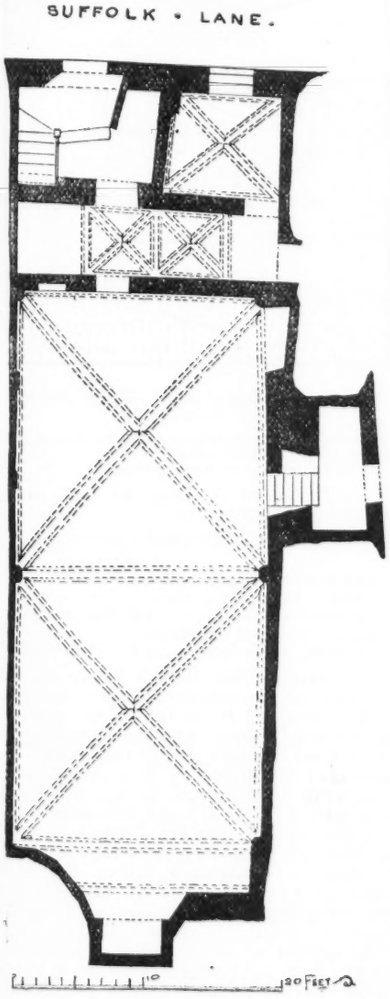
from the plan of Bernardino Amico, reproduced in Ferguson, vol. i., page 419. The width there shown within aisle walls is 105 ft., the width of centre to centre of piers 43 ft.

The orientation of churches in Rome and in the East is too long a subject to enter into now, but Mr. Lethaby's reference to the Mosque at Jerusalem, built by Walid's father reminds me, that all early structures erected by Mahometans have the arcades running in the direction of the Mecca walls; in the mosque of El Aksah nearly north and south. The Church of St. John, built by Arcadius, has its line of arcades running east and west, which, from my point of view, is an additional proof in favour of the Christian origin of the western wing of the Mosque of Damascus.

In conclusion, there is one point on which, I think Mr. Lethaby will be inclined to agree with me—viz., in the great advantage which would accrue to the discussion if a plan were published showing the Mosque as it existed up to last year, with the approaches thereto, and including the Roman, the Christian, and the Mahometan buildings, and this I hope to be able to send you shortly. R. PHENÉ SPIERS.

AN ANCIENT CRYPT.

SIR,—I think it may be of interest to some of your readers to know that there is in existence an ancient crypt dating from about the fifteenth century, at No. 3, Laurence Pountney-hill, E.C.



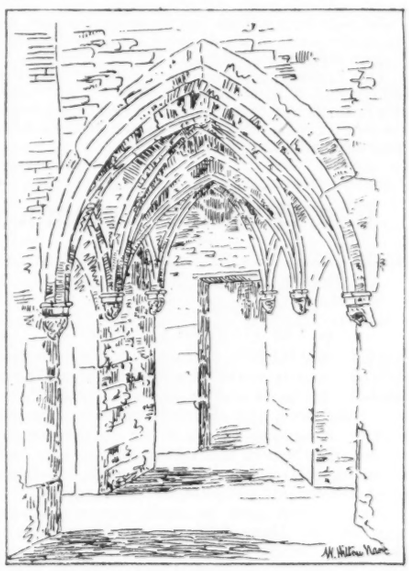
An Ancient Crypt.—Plan.

Till very recently this has been used as a carpenters' shop, and as within the next few weeks it will probably be demolished to allow of the rebuilding of the premises situated over it, it is necessary for any one desirous of visiting this relic of "vanishing London" to do so forthwith.

On this site stood formerly the palace known as "The Manor of the Rose" (sometimes called "Pulteney's Inn"), the locality of which is described by Shakespere ("Henry VIII.," act. i., sc. 2):—

> "Not long before your Highness sped to France,
> The Duke being at the 'Rose,' within the parish
> St. Laurance Poultney, did of me demand
> What was the speech among the Londoners
> Concerning the French journey."

The fortunes of this mansion have been various. It was originally built by Sir John Pulteney, Knight, five times Lord Mayor of London, in the reign of Edward III. It passed successively through the hands of his widow; of John Holland, Duke of Exeter; and of various members of the De La Pole or Suffolk family. It was forfeited for treason on the part of the last bearer of that name, and granted by the Crown, in 1506, to Edward, Duke of Buckingham, by whom it was retained until he was attainted in the thirteenth of Henry VIII. The names of the streets, Suffolk-lane, from which it is entered, and of the parish, St. Laurence Poultney, or Pountney, in which it is situate, still bear witness to its former proprietors. "Ducksfoot-lane," in the neighbourhood, was the "Duke's Foot"-lane, or private passage from his garden, which lay to the east of the mansion, to the river; and the upper part of St. Laurence Pountney Hill was, until within these few years, called "Green Lettuce-lane," a corruption of "Green Lattice-lane." This was the means of approach to the palace from Cannon-street.



View in Passage.

The general plan of the crypt consists of two large arches and three smaller arches at the western end which are approached from Suffolk-lane.

View in Large Chamber.—An Ancient Crypt.

The property belongs to the Merchant Taylors' Company, who will be happy to give every facility to those who wish to view the arches. I may, however, state, to avoid disappointment, that there is no specially fine moulded groined work, but from an archæological point of view, I think that the remains are of somewhat unique interest.

The groining ribs are splayed, and spring nearly from the level of the floor, the height being about 12 ft. to the underside of the vaulting,

There are some very similar arches in the small crypt at the Merchant Taylors' Hall.

W. HILTON NASH.

THE R.I.B.A. DISCUSSIONS.

SIR,—Surely it is high time that the R.I.B.A. should purge itself. If not, it should hold its debates with closed doors.

The exhibition which one of its members (and an official)* is accustomed to make of himself at its meetings is not likely to add to its influence and dignity, if outsiders are admitted to witness this person's proceedings. OBSERVER.

SIR,—Is Mr. Wm. Woodward a type of the British architect, as reared by the Royal, and would-be representative, Institute? If so, who would belong to it? OUTSIDER.

* This is surely a mistake. We are not aware that the person in question has any official position in the Institute. —ED.

SIR,—Mr. Wm. Woodward, whose unseemly and ill-mannered interruptions did so much to mar the success of the General Meeting of the Royal Institute of British Architects on Monday last, seems from his own statement to have very definite views as to the functions of an architect. But he obviously has not yet learnt that the architect's primary function is to be a gentleman. Surely it is time that the Council took some steps either to teach this person deportment or to rid the meetings of his presence. His Monday night's performance was carried beyond endurance. A.R.I.B.A.

QUANTITIES.

SIR,—I should feel very greatly obliged if, by publishing this, it may be ascertained whether an architect who is paid for taking out quantities can repudiate liability for their accuracy, and throw the responsibility from himself (the architect), who is paid for doing the work, on to those (the builders) who receive nothing.

My business is confined entirely to work in the country, and without exception, in my experience, country architects take out their own quantities, for which they charge 2½ per cent. and the cost of lithographing them.

I have two sets of quantities now in front of me. In one of them the following paragraph occurs:—"The successful contractor will be allowed ten days to examine and verify the correctness of the bills of quantities, after which no question shall be raised as to any inaccuracy." In the other it says "These quantities are supposed to be correct, but the successful contractor will be allowed seven days after the acceptance of his tender to verify them, after which no question as to their accuracy will be entertained." In one case the charge for quantities amounts to 180*l.*, and in the other to 97*l.*

I should be glad to hear whether it is legal to receive money for doing work in which accuracy is of the utmost importance, and at the same time deny any responsibility. Under any circumstance it seems to me a very cowardly act to force a builder to do for nothing that which another man charges 180*l.* for. COUNTRY BUILDER.

*** We believe the view that the law takes of the matter is that a professional man cannot be held responsible for failure in his work if it is shown that he has exercised "due and proper care"; and this is no doubt properly applicable to such a case as a failure in construction of a building from causes which might escape the prevision of the architect, even after due and proper care. We have been told by a lawyer that this is equally applicable to the case of errors in quantities; but we have always differed from that view, because quantities are literally a statement of *facts*, the correctness of which can always be ascertained and ensured, especially by an architect who has himself made the plans and therefore knows all about his own intentions in the building. A constructive failure in a building may be due to an error of judgment, which is an essentially different thing. One reason that the law applies the same principle to both cases is, we believe, that very few lawyers clearly understand what quantities are. We are certainly disposed to sympathise with our correspondent. If the contractor is required to verify them for his own security, to any good purpose, he might almost as well take out the quantities himself. But, as we said, we believe the legal position of the matter is, at present, adverse to our correspondent's claim. Not that it is the architect's duty to make good the amount if the quantities are deficient; it is the duty of his client, who of course gets the direct benefit of any materials supplied over and above what were scheduled in the quantities on which the estimate was based.—ED.

ARCHITECTURAL ASSOCIATION VISIT TO ST. PAUL'S.

SIR,—Referring to the notice in your paper of the 21st inst. about the visit of the Architectural Association to St. Paul's Cathedral on the 14th inst., the drawings of "Old St. Paul's," hung up in the choir-room, are not by the late Benjamin Ferrey, but his son. They represent the building as it may have appeared about 1540, and were prepared from a study of Hollar's plates in Dugdale's "History of St. Paul's Cathedral," the subject having been given by the Royal Institute of British Architects, who, in 1868, awarded the Institute silver medal, &c., to the author. The drawings were published in 1873 (to a necessarily much-reduced scale) in the late Wm. Longman's "The Three Cathedrals dedicated to St. Paul in London." B. E. F.

HOSPITAL VENTILATION.

SIR,—Permit me to point out that in the report of the meeting of the Leeds and Yorkshire Architectural Society in this week's *Builder*, the explanation I gave of the system of ventilation to be carried out at the New General Hospital, Birmingham, is wrongly described: none of the air will be "extracted by a fan," or any other means.

The cleansed air to the extent of twenty million cubic feet per hour will be *forced in* by means of fans and allowed to escape by properly-constructed flues and turrets.

The main portion of my remarks had reference to the great superiority of this system of Propulsion

over any method of Extraction, particularly for hospital use, because an even temperature and humidity, as well as definite and frequent change of air is thereby secured, without setting up dangerous draughts, and because the pressure of the air in the wards, being always in an outward direction, that from contaminated sources cannot enter.

The distinction between the two systems is of so much importance that I shall be obliged if you will give the explanation equal prominence in your paper. WILLIAM HENMAN.

P.S.—The paper will appear in the next issue of the "Transactions" of the R.I.B.A.

*** We may point out to Mr. Henman that we do not require any one to tell us that the distinction between the plenum and the vacuum system is an important one. We agree with his view that the plenum system is generally preferable, for various reasons, one being that the choice of the stratum from which the nternal air shall be replenished is more under control than it can ever be with the vacuum system. Mr. Henman is mistaken in supposing that the misrepresentation of what he really said is due to any one on the editorial staff of this journal. If the Leeds and Yorkshire Society sent us, as some other country societies do, an authoritative report as to the substance of papers read at their meetings, the mistake probably would not have occurred.—ED.

ADMIRALTY BUILDINGS HEATING AND VENTILATING CONTRACT.

SIR,—I desire, with your permission, to reply to the letter in your issue of the 14th inst., under the heading of "Admiralty Extension: Building, Heating, and Ventilating Contract," signed "John Jeffreys."

In the first place, Mr. Jeffreys states his men were interfered with by the London Building Trades Union officials, on the pretext that they were working more than nine hours per day, but really because they did not belong to the union.

This statement I absolutely deny. The officials, as he terms them, saw his foreman, and accompanied him to the office, and saw Mr. Jeffreys, but did not see any of the workmen, except the foreman mentioned above.

Secondly, Mr. Jeffreys gives the rates of wages for skilled fitters, but he does not state what he pays the fitters he employs. I deny that *he* pays 9½d. to 10d. per hour for fitters; and in his anxiety to run into the Press, he did not trouble to inform himself of the fact that 6½d., and not 6d., per hour is the rate of wages for labourers. No doubt he pays the latter amount, additional evidence which goes to prove the case against himself.

The men start work at 7 a.m. and leave at 5 p.m., and are paid ten hours for it, no deduction for dinner hour, but I wish to remind Mr. Jeffreys he does not state the time the men have to be at his shop in the morning.

Finally, I may state those delegates that interviewed Mr. Jeffreys in respect of the working hours on the above job attended solely on the question of hours and nothing else, and if they had been as thin-skinned as Mr. Jeffreys I have not the least doubt but they would have retaliated pretty smartly to the insulting language used by him. The majority of the employers in London have expressed themselves favourable to an interview when questions of this nature arise, and which experience has proved is the better way of arriving at a satisfactory arrangement without friction on the jobs, but I suppose Mr. Jeffreys would consider it a reproach on his name to admit that workmen have a right to see him on a question in which they claim to have a right to speak. J. VERDON, *Secretary*,
London Building Trades Federation.

IS A CONCRETE FLOOR SOUND-PROOF?

SIR,—Filling up the space between the concrete and the floor boards with silicate cotton, dry sawdust, or some other good non-conductor, and nailing strips of thick hair felt on the edges of the joists before relaying the floor boards, would very much lessen the transmission of sound. It seems strange that, although the use of concrete—more especially for floors—is becoming common, its capacity for conveying sound is so misunderstood as to render it necessary to ask in the *Builder*, "Is a concrete floor sound-proof?" As a matter of fact, the better the concrete the more readily it conveys sound. An actual trial lately proved that ordinary conversation could be distinctly heard through a 6-in. concrete wall plastered on both sides, and the same applies to concrete floors.

Concrete floors should never be constructed solid throughout if required to be sound-proof, and where wood, in the form of joists, bears directly on the concrete, sound is very readily transmitted from one to the other. THOMAS POTTER.

"BOILER EXPLOSIONS."

SIR,—Although endorsed by your editorial footnote, my letter (page 241) has failed in its purpose of eliciting detailed particulars of hot-water supplies where accidents have occurred owing to frost Mr. Buchan has, perhaps, helped to confuse the matter by dilating upon the acknowledged advantages of the low-level system, and so ardent an advocate is he that he appears blind to the "secondary return" introduced to obviate an original drawback to the system—viz., a pipe full of water to be emptied before you get to the hot.

It was no theory when I stated that water expanded with cold (and, therefore, circulates with cold of below 39 deg.), and freezes from the top downwards: both are elementary truths.

The expansion-pipe carried through the roof is, in my opinion, the prime offender. One case has come to my knowledge since writing. It is, however, an aggravated one, for the water always stood in the expansion-pipe above the slates, there was the constant supply, and the low-level system. The hot-water pipe burst (not the boiler) immediately above the cylinder. FRANCIS E. JONES.

LONDON TRAMWAYS CO.

SIR,—In your "Note" on the recent decision, you quote the words of the disputed clause in the Act as "them their value ('exclusive of,' &c., &c.)."

The *Times* report gives these words as "the then value," and it is, I think, the word "then" which has caused some doubt as to the exact meaning of the Act. I agree with you there can be little difference of opinion as to its intention.

R. LANGTON COLE.

The Student's Column.

THE STRUCTURE AND PHYSICAL PROPERTIES OF BUILDING STONES.—XVII.

4. THE HAM HILL DISTRICT.

A NUMBER of small oolite quarries, mostly worked for road-metal and lime, are to be seen in the vicinity of Yeovil and Sherborne, and although our notes on the area are somewhat extensive we do not purpose to describe them in this connexion, as very little of the material is true "building stone," as distinguished from odd-course stone, walling, &c.

An exception must be made, however, for the quarries on Ham Hill, near Montacute, in Somerset, where the Inferior Oolite is very actively exploited in several large quarries, which give employment to about 200 men. Judging from the buildings in the vicinity and from the enormous heaps of *débris*, conspicuous for miles around, the material must have been worked for centuries. The following geological sketch map (fig. 25) serves to indicate the site and to explain

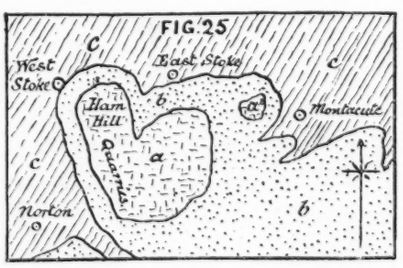


FIG. 25.—*Geological Sketch Map of Ham Hill.*
a=Inferior Oolite. *b*=Midford Sands. *c*=Marlstone-Lias.

the geology of the locality. The quarries are situated at the very summit of the hill, and are all open workings. The face of one of them is 80 ft. in height, 40 ft. of which is overburden, having to be removed before the lower 40 ft. containing the good stone can be taken out. Very few quarries in the country give a sufficient depth of good stone to warrant the expenditure of money for the removal of as much as 40 ft. of rubbish over it. The building stone consists of beds of variable thickness, ranging from 6 in. to 2 ft. 6 in. on the flat; as a rule, the thickest beds are situated at the bottom of the quarries. The vertical joints are irregular, but far apart, and stone of practically any length can thus be obtained. The average thickness of blocks is about 1 ft. 6 in.

Ham Hill stone varies in tint from light yellow (called "white") to light orange, and much of it is streaked with these colours, producing the phenomenon of "false bedding." The best stone for cornices, projections, and all weather-courses is stated to be the "grey" bed at the bottom of the quarries. Rock powder is never used except for blasting the overburden. The stone is not quarried as a rule in winter, as it is found to scale with frost—as, indeed, do many other free-stones. It is raised to the bank by large steam cranes, and being placed on trolleys is then run on lines to the steam saws and large masons' sheds. The men who lift the stone from its bed in the first place (the "getters") are paid day-work; but other quarrymen, and those who "rid" the overburden, are on piecework. The trade is mainly in dressed stone.

Micro-Structure of Ham Hill Stone.

Very little need be said respecting this, as we have already described and illustrated a micro-section of the stone when dealing with types of structure (see *ante*, p. 221; plate, fig. 3). We may, however, remind the student that it consists essentially of shelly matter bound together by crystalline granular calcite, and that it is full of free, open spaces. It differs in structure from any other building stone with which we are acquainted.

Our experiments on certain physical properties of Ham Hill stone will be referred to in connexion with the next district to be described.

5.—THE DOULTING DISTRICT.

In the vicinity of Doulting, near Shepton Mallet, the Inferior Oolite is much worked, giving employment to about 150 men, including masons. All the quarries are open works, and the more important are situated near the village of Chelynch. The following geological sketch map (fig. 26) indicates the sites of the various work-

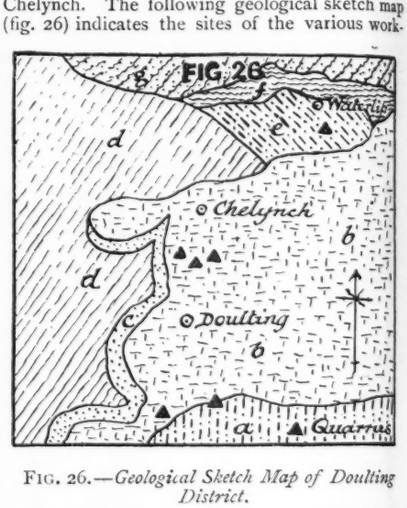


FIG. 26.—*Geological Sketch Map of Doulting District.*
a=Fullers' Earth. *b*=Inferior Olite. *c*=Midford Sands. *d*=Lias Clay. *e*=Carboniferous Limestone. *f*=Lower limestone Shale. *g*=Old Red Sandstone.

ings. Arrived at Doulting, we walk to the northward and observe the

Section at Chelynch Quarry.

	Thickness.
Rubble, overburden	8 ft. to 10 ft.
Upper freestone, fine grained, in two beds.....	2 ft. 6 in. and 4 ft.
Lower freestone, coarser grained, in two beds.....	2 ft. 6 in. and 2 ft.

The vertical joints in this quarry are very irregular, but far enough apart to yield large stones. Blocks 5 ft. on the bed can sometimes be procured. Minute ferruginous cracks appear on the stone in certain parts of the quarry. The material is cut *in situ* by lines of holes being picked, into which wedges are driven, when the stone splits asunder. It is of a light brown tint.

A short distance from this is the old quarry of St. Andrew's, whence the stone used in the construction of Glastonbury Abbey and Wells Cathedral is said to have been obtained; it is now overgrown with trees, but we thought it would be interesting to obtain and test a sample of the material to ascertain whether it differs in any way from the Chelynch stone as at present raised. Our observations on this point will be seen below. There is also another quarry exploited near by.

A mile due south brings us to the Brambleditch quarry, which gave the following section:—

Section at Brambleditch Quarry.

Rubble, rag, &c. (overburden) 24 ft. thickness.
Building stone in beds of variable thickness, made up of four beds=4 ft. 6 in., 3 ft., 2 ft., and 2 ft. 6 in. respectively.

The "Brambleditch" stone is also of a brown tint, but is softer than the Chelynch. It is a large opening, and the stone is raised by means of a steam-crane—the only one in the district.

Another quarry in this stone, near the large masons' sheds, but of lesser importance than the opening last alluded to, gave rubble overburden 10 ft., and building stone (of rather inferior quality) 12 ft., in beds from 1 ft. 6 in. to 2 ft. in thickness. There is also a quarry

at West Cranmore, practically unworked at the time of our visit.

It may be mentioned that the Chelynch stone is sent by horse-tram to the masons' sheds, a distance of about a mile, which latter are conveniently situated alongside the railway. The stone is largely converted by steam power.

Micro-Structure of Doulting Stone.

The micro-structure of this stone, from both Chelynch and Brambleditch quarries was described and illustrated *ante*, p. 221, plate, figs 4 and 7, but the following additional observations may be useful.

Brambleditch.—Made almost entirely of fragments of shells, crinoids, &c., bound together in places by a rather imperfect calcitic matrix. Here and there quartz grains are seen; and granulated silica is developed as a partial matrix, but the total amount is small. The stone is very open, free spaces being exceedingly abundant. Many of the organic remains are partially decomposed, but by becoming absorbed to a certain extent in the crystalline matrix, the stone suffers but very little in consequence.

Chelynch.—This differs primarily from the Brambleditch in the comparatively fresher appearance of its organic remains, in the more abundant matrix, in the relative rarity of free quartzose sand grains, and in not being so open. Moreover, some of the echinoderm remains are distinctly silicified, and more silica is disseminated in the matrix. The component particles considerably interlock with each other.

St. Andrew's Old Quarry.—Structure essentially similar to that just described from Chelynch, with these important differences, viz., free spaces are not so abundant, the matrix is beautifully crystalline, composed of remarkably well-formed calcite and in places of granulated silica. The cleavage planes in the calcite are very clear, and on revolving the polariscope the lamellæ exhibit a fine display of colour. We have never seen a matrix of this character in any other Jurassic building stone; it must aid very materially in preserving the stone from decay.

The adjoining table shows the results of our experiments :—

Experiments on some Physical Properties of Ham Hill and Doulting Stones.

		Ham Hill.	Brambleditch.		Chelynch.	
		Large Quarry.	Large Quarry.	Small Quarry.	New Quarry "fine bed."	Old Quarry (St. Andrew's)
Specific gravity		2·11	2·00	2·05	2·17	2·35
" " of particles		2·50	2·57	2·54	2·56	2·65
Absorption of water per cent.	In 1 second	1·30	2·41	2·50	2·47	·68
	In 1 minute	3·47	6·23	6·88	5·30	2·04
	In 30 minutes	6·30	8·85	8·14	5·83	4·09
	In 1 day	6·52	9·65	8·76	6·36	4·60
	In 1 week	7·17	11·06	9·39	6·89	4·77

Comparing the micro-structure of the Doulting stones as a whole with those from other districts it may at once be observed that the great preponderance of punctated organic remains (for the most part of echinoderms), and the peculiar manner in which these frequently shade off into the crystals of the matrix, serve to distinguish these freestones from all others.

The structure of Ham Hill stone, differing so much as it does from that of the other two kinds, must not be compared with them physically. It may be noted that for a stone with such open grain, the Ham Hill absorbs but a small quantity of water, a circumstance no doubt due to its crystalline nature, which is such that its comparatively large holes are completely surrounded by practically non-porous substance; if it were otherwise its degree of porosity would be much higher.

The results show that the Brambleditch stone absorbs a greater proportion of water than the Chelynch, and its specific gravity is lower. The Doulting stones, as a whole, do not absorb water as rapidly as do those from some other districts already mentioned; but an exception must be made for that from the new Chelynch quarries (where the bulk of this stone is now raised), which became almost thoroughly saturated in one minute. At the same time it may be mentioned that the total amount absorbed by this Chelynch stone is in itself very little in comparison with that by some raised in the Tisbury and Portland districts, and by the generality of the Bath stones, as we shall see later on. It is interesting to compare the results on the two Brambleditch stones; during the one-second and one-minute immersions. That from the "small quarry" (near the works) rapidly shot ahead of its neighbour, but slackened speed during the half-hour trial, and fell short altogether before the end of the week's immersion. This is by no means an isolated example, for we find that given two similar building-stones, both absorbing the same amount at the end of a week, one will take up almost its full quantity in less than a minute, whilst the other requires a day at least to absorb half the total amount. The practical application of this fact is sufficiently obvious, and would be a prime factor in choosing between the two materials.

The most astonishing of our results, however, is the divergence in regard to specific gravity and absorption exhibited by the two Chelynch stones. It will be remembered that that marked "old quarry"—from which notable buildings that have stood the test of time remarkably well have been supplied—came from a working only a few yards distant from the new Chelynch quarries, and on the same horizon. Yet we see that it absorbed much less than the recently-raised stone. Such a result led us to institute a very detailed comparison between the two stones under the microscope; as we have seen, the old stone from St. Andrew's quarry has a more perfect matrix, which is very crystalline, and not as open as the new Chelynch, whilst it is more siliceous. Indications were present which led us to the conclusion that a slight change has also been induced, probably by the action of weathering in the old stone, and that the material—already very durable—is rendered even more weatherproof on exposure. There is no doubt that the new Chelynch will behave in a similar manner. On scientific grounds, therefore, we regard the finer-grained Chelynch stone as a very good building material—one of the best of its class; the coarser-grained stone is also far above the average; but we are not so favourably impressed with any of the Brambleditch stones examined either in the laboratory or in the quarries.

OBITUARY.

MR. GEORGE BURT.—Mr. George Burt, J.P., head of the firm of Messrs. Mowlem, Burt, & Co., the well-known contractors, of Grosvenor Wharf, Millbank, died suddenly of heart disease at his residence, Purbeck House, Swanage, on the 18th inst., in his seventy-ninth year. The deceased gentleman served the office of sheriff of London and Middlesex in 1878, and was a magistrate for London, Westminster, Middlesex, and Dorset. He was also one of her Majesty's lieutenants for the City, and a member and past master of several of the livery guilds.

ALDERMAN J. SESSIONS.—On the 16th inst. the death occurred at his residence, Park-road, Gloucester, of Alderman Jesse Sessions, stone and building-material merchant. The deceased was born in 1804 at Charlbury, Oxfordshire, and as early as 1830 he went to live at Gloucester, where he first carried on business near Westgate Bridge. In 1872 he was elected to serve on the Town Council, and in 1878 he was made an alderman and retained that office for sixteen years. He became Mayor of Gloucester in his 80th year. The funeral took place on the 19th inst.

MR. J. A. RAEMAKERS.—Mr. J. A. Raemakers, the sculptor, whose bust of Sir John Monckton was unveiled at the Mansion House on the 16th inst., died on the 19th inst., as the result of a fall at his residence in Warwick-road, Maida Vale. He was in his sixty-third year. For many years past he has been an exhibitor at the Royal Academy and the various Salons.

NEW CHURCH, COATBRIDGE.—The new church of St. Patrick, Coatbridge, N.B., is to be commenced at once from the designs of Messrs. Pugin & Pugin, of London.

GENERAL BUILDING NEWS.

PROPOSED THEATRE, BRIXTON.—It is proposed, says the *South London Press*, to erect a theatre at Brixton, the front elevation of which will abut on to the same thoroughfare as the Tate Library. The entrance to the circle and boxes will be beneath a tower, while the public approach to the auditorium will be from Ardville-road. The theatre will be capable of accommodating about 2,000 persons. The auditorium will measure 60 ft. by 50 ft., and the stage will be 80 ft. by 40 ft. Above will be the dress circle and gallery, both of which will be supported on the cantilever principle, by which all columns will be dispensed with. Concrete and iron are being used in the building. The vestibules will have tiled mosaic floors. Excepting the tower the theatre will be entirely isolated, and will be lighted by electricity. The architect of the new theatre is Mr. Frank Matcham. Mr. Wheeler has been entrusted with the contract.

EXTENSION OF BUSINESS PREMISES, NEWCASTLE.—An extension has been made to the premises occupied by Messrs. Bainbridge & Co., of Newcastle. The work has been carried out by Messrs. Knowles, Armstrong & Co., architects, Newcastle. An addition has also been made to the establishment of Messrs. James Coxon & Co., drapery warehousemen, Newcastle. The new portion is on the Grey-street side of the firm's premises, which now run from No. 79 to 85. The establishment will be lit by electricity. The new portion was designed by Mr. James T. Cackett, architect, Newcastle, and the contractor was Mr. Thomas Weatheritt.

SCHOOL BUILDINGS, CHARFIELD, GLOUCESTERSHIRE.—On the 20th inst. the new buildings which have been erected for the National Schools, Charfield, were opened. The new schools, which have been built from designs supplied by Mr. W. W. Bethell, architect, Queen Anne's Gate, Westminster, provide accommodation for upwards of one hundred children. The style harmonises with the architecture of the church, the material used being local sandstone, with Bath stone dressings. There is a room for the mixed school 38 ft. by 18 ft., and an infants' room 18 ft. by 18 ft. The cloak-rooms, gables, and half-timber work are in oak. Adjoining is a residence for the schoolmaster.

NEW PUBLIC HALL FOR WARRINGTON.—The contract for the new Public Hall, Warrington, has just been let to Mr. R. W. Collins, builder, Warrington. The cost will be about 5,000*l.* The site is near the present Gymnasium, Palmyra-square. Mr, William Owen is the architect.

PROPOSED NEW BATHS FOR LEEDS.—The Leeds Corporation having applied to the Local Government Board for sanction to borrow 50,000*l.* for the erection of public baths and wash-houses in the city, Major-General Henry Darley Crozier, R.E., one of the Local Government Board Inspectors, held a public inquiry in the Council Chamber at the Town Hall on Tuesday, relative to the matter. Mr. Harrison, the Town-Clerk, explained that the Baths and Wash-houses Committee had determined to carry out a complete scheme, proposing altogether to erect five baths. At present, however, they had only decided to build two of these, one on the land known as the Midden in Union-street, and the other on a site near the viaduct in Kirkstall-road. These two baths had been roughly estimated to cost 8,000*l.* each. The application by the Corporation was for 50,000*l.*, the sum in round figures which it was estimated would be required to complete the scheme. In each of the proposed buildings there were to be two swimming-baths, ten second-class slipper-baths, five first-class slipper-baths, and five ladies' slipper-baths. One of the swimming-baths would be set apart half a day each week for the use of ladies. The total cost of the two buildings was 18,478*l.* 12s. 5d. Mr. Hanstock, the architect of the proposed baths, then explained in detail the plans. The Inspector afterwards visited the two sites.

CLERGY HOUSE, ST. GERMAN'S, ROATH, NEAR CARDIFF.—On Tuesday Viscount Halifax opened the new Clergy House for St. German's, Roath. The building has recently been erected on a site adjoining the church, the architects being Messrs. Bodley & Garner, of London, and the builders Messrs. Shepton & Sons, Cardiff. The building is in the Gothic style, and is built of stone. The ground floor consists of study, library, dining-room, two sitting-rooms, kitchen, scullery, &c., and the first floor of seven bedrooms, servants' room, bath-room, and conveniences. The contract price was over 2,000*l.*

HIGHER GRADE SCHOOLS, HANLEY.—A block of buildings, erected by the Hanley School Board for school purposes, was opened a few days ago. The architect was Mr. E. E. Scrivener. The school is calculated to accommodate 720 scholars.

CATHOLIC CHURCH, WESTBURY.—The new Catholic Church which has been erected on the ground of the Convent of St. Anthony at Westbury, and is dedicated to the Sacred Heart of Jesus and to St. Aldhelm (the first Bishop of Sherborne), has just been opened. The building was built by Mr. Kitch, of Bridgwater, from plans, says the *Western Chronicle*, designed by the Rev. Father Scoles, of Yeovil, and, together with the ordinary furniture, has cost about 4,000*l.* The chapel is built chiefly after the Early English style, the only exception being the sanctuary, which is decorated with

carvings. The walls of the building are of local stone, with Ham stone dressings. The roof is covered with Major's (Bridgwater) patent weather-proof vitrified blue tiles. The interior of the walls is stuccoed, of a pale salmon tint; the floors of the choir and nave are of patent pitch-pine blocks, the sanctuary being laid with encaustic tile paving. The church is ceiled with pitch-pine. It is composed of a nave, 54 ft. long, 22 ft. broad, and 43 ft. high; the sanctuary, which is approached by two steps, is 23 ft. deep and 21 ft. broad. The side chapel is on the epistle side of the sanctuary, and, opposite it, and divided by three arches, is the nuns' choir, which is 36 ft. by 20 ft. At the end of this is the cloister, communicating with the convent on the ground floor, and a tribune, with approach from the infirmary, on the first floor. On entering the church is a statue of the Sacred Heart of Jesus; a kneeling figure at the feet of St. Mary; and about half-way up the figure of Our Lady is placed in an upright position. The altar is in the sanctuary, the front of which is divided by four marble columns in three compartments, the centre one filled with a bas-relief representing the death of St. Joseph, and the side openings contain statues of St. Ignatius and St. Aldhelm. The tabernacle rises above the marble altar stone, and has one of Hardman & Co.'s brass repoussé doors in front with Californian gold onyx columns at the sides, with angels above. The reredos consists of an arcade, which extends the whole width, and is supported by marble columns, the throne of the Blessed Sacrament rising from the centre to a height of 20 ft. This work was executed by Mr. A. B. Wall, of Cheltenham. A statue of the Sacred Heart of Jesus, in the act of blessing the town, is placed in the apse over the sanctuary, and is 15 ft. high, while the niches to the apse buttresses are filled with the two statues of St. Anthony and St. Aldhelm.

CEMETERY CHAPEL, ALTRINCHAM.—The foundation-stone of the cemetery chapel at Hale, Altrincham, where the Altrincham Local Board are expending nearly 10,000*l.*, was laid on the 18th inst. by Mr. Alderman Griffin. The chapel is being erected from the designs of Mr. W. Owen, A.R.I.B.A., of Manchester, Mr. John Matthews, of Nantwich, being the principal contractor. The new building, which will be entirely faced with stone, is in the Decorated Gothic style, and will comprise chancel, nave, large mortuary, vestries, &c.

SANITARY AND ENGINEERING NEWS.

THE FUTURE WATER-SUPPLY OF WORTHING.—Mr. Baldwin Latham has so far completed the hydro-geological survey of that part of the South Downs which is likely to afford a supply of water to Worthing as to be able to point out the positions which might be selected for the purpose of constructing a water-works. It may be taken for granted, he says, that there is no area sufficiently large in itself anywhere in the vicinity of Worthing from which sufficient water can be procured for the town supply, and which is entirely free from the influence of populations. He has indicated—upon a plan submitted to the Corporation—three sites (A, B, and C), in the neighbourhood of Worthing, which are the most free from pollution. Of these sites he regards C as the most suitable, provided a well is sunk sufficiently far removed from the existing swallow holes which are located to the south, south-east, and west of the proposed site. The site C is located in the parishes of Parham, Angmering, Clapham, Burpham, Patching, Findon, Storrington, and Amberley, and is sparsely populated, containing a population of twelve persons per square mile, and will be capable of supplying in a low-water period not less than 900,000 gallons a day, which it is possible to increase. If this be selected, Worthing will possess, in the opinion of Mr. Latham, a site unsurpassed in the country for the purity of its water-supply and the freedom from risk and liability to contamination. In view of the steps that are being taken there is little question that the lesson taught by the visitation of the unfortunate epidemic last year will bear excellent fruit, and that before long Worthing will leave little to be desired, not only in regard to water-supply, but to matters affecting general sanitation also. We congratulate the authorities on their display of energy towards the attainment of so satisfactory an end.—*Lancet.*

ELECTRIC LIGHTING IN MANCHESTER.—On the 13th inst., electric lighting works were opened at Manchester, in Dickinson-street. The system of generation and distribution that has been adopted is in accordance with plans designed by Dr. J. Hopkinson, consulting engineer to the Corporation. It is the system known as the five-wire system, by which a direct supply is obtained by a continuous low-pressure current. The engine and dynamo house is 200 ft. long, 80 ft. wide, and 43 ft. in height, and is lined with glazed bricks throughout. It is divided into two bays, and at an elevation a 10-ton crane travels on longitudinal girders the whole length of each bay to facilitate the handling of the machinery. There are ten engines of the compound vertical condensing type, working at a pressure of 120 lb. The dynamos, ten in number, are driven by linked leather belting with jockey pulleys. The switch-board is of special design, with horizontal and vertical bars, and is so arranged that any pair of feeders may be coupled to any large dynamo, or the several feeders grouped in any arrangement on one or more of the dynamos. The plant at present provided is estimated to supply 20,000 incandescent lamps of 16-candle power, and already current is being actually supplied to 18,594 lamps of 16-candle power, 250 arc lamps, and motors to the extent of 16-horse power. The mains by which the current is distributed to the consumers consist of bare copper strips supported on porcelain insulators, set in concrete conduits and insulated rubber cables in cast-iron pipes. The resident electrical engineer to the Corporation, who will have the supervision of the works, is Mr. C. H. Wordingham.

FOREIGN AND COLONIAL.

FRANCE.—By a Presidential decree the Société Centrale des Architectes has been authorised to accept a legacy of 15,000 francs from the architect Guérinot, to be used in founding a prize or scholarship.——M. Gérôme has been commissioned to execute the bust of M. Prevost-Paradol for the Gallery of the Academie Française.——The competition designs for a new postage stamp are to be sent in on May 1.——An important exhibition of the works of Manet is open in the Durand-Ruel Gallery.——The subject given to the architectural students competing for the Prix de Rome is "Une École Centrale des Arts et Manufactures.——The works undertaken in carrying out a sewer in Rue Jean de Beauvais have led to the discovery of the remains of a Roman erection in brickwork, as well as those of a Mediæval monument well known formerly under the name of "Puits-Certain."——M. Dolivet, the sculptor, has been commissioned by the town of Rennes to execute a monument to be raised to the Breton "mobiles" who fell in the Franco-German War. The monument will consist of a pyramid with a female figure, holding a palm branch, in front of it. At the four angles will be four statues, a Zouave, a sailor, and two armed "mobiles."——The monument which has been raised at Asnières to the memory of Durand-Claye, the eminent engineer, has just been completed.——It is now definitely announced that the Société Nationale des Beaux-Arts *will* exhibit at Antwerp, occupying a place near that assigned to its rival the Société des Artistes Français, and of equal extent.——The congress of the French Archæological Society will be held at Saintes and at La Rochelle, from May 25 to June 6.——MM. Wulliain & Farge, architects, of Paris, and M. Levesque, engineer, have obtained the first premium in the competition opened at Nevers for two new markets.——An exhibition of decorative and industrial art and fabrics exclusively manufactured in the departments of the Meurthe and Moselle, Meuse, and Vosges, will be held at Nancy from June 15 to July 15.——Marseilles is about to erect large public abattoirs, with a market and stabling for animals adjoining it.——The Orleans Railway Company are about to construct, for the crossing of the Sioule by the railway line from Paunat to St. Eloy, a bridge higher than that of Garabit, hitherto the highest in France. The bridge, an iron one, will cost three million francs and will be 135 mètres above the river level, and 375 mètres long. It will be carried on two lofty stone piers.——The thirty-first Exhibition of the Société des Amis des Arts de la Somme will be opened at Amiens on June 3, and remain open till July 16.——The formation of ports at Sousse and Sfax, in Tunisia, is talked of.

VIENNA.—Messrs. Bruno Gruber and Otto Hofer, both on the staff of the late Baron Hasenauer's *Atelier*, are now to succeed their deceased master as architects of the new "Hofburg," or Royal Palace, which is to be completed by the end of the century.——According to the last annual report of the Austrian "Ingenieur und Architekten Verein," which has its seat in Vienna, this body has now over 2,300 members, of whom 1,360 are resident in the capital, The library now contains about 7,000 volumes; the increase is mainly due to a bequest of the late Herr August Fölsch.——The monument to the late Von Schmidt is to be ready by next spring. Herr von Hoffmann is the sculptor, and Herr Deininger the architect.

GREECE.—The production of Portland cement in Greece last year amounted to 10,800 tons. Of metal ores there were produced 142,445 tons of iron ore, 157,756 tons of manganese ore, 11,716 tons of manganese, 1,470 tons of chromium ore, 10,100 tons of magnesite, 2,380 tons of lead ore, 24,769 tons of galena, and 1,479 tons of emery.

GERMANY.—The Emperor has sanctioned the proposal for the erection of a Bismarck monument in front of the Colonnade of the Reichstag building.——The President of the Council, Count Eulenburg, who was also approached as to the advisability of rendering the Berlin Industrial Exhibition of 1896 a universal industrial show, has followed the example of the Chancellor by declining to sanction any extension of the original scheme. The Executive, which has been strengthened by the addition of two members of the Chambers of Commerce, is now trying to find a suitable site; a plot of ground close to the Lietzen Lake is mentioned as the probable position. The guarantee fund is increasing rapidly, whilst applications for space are almost too numerous.——The success of the Berlin Art Exhibition, in spite of its "scratch" character, has encouraged its promoters to arrange for a repetition next year, with a view to making it an annual event.——The long-talked-of restoration of the former Electoral Palace at Mayence will probably be taken in hand very shortly, the Hessian Chamber having now voted 15,000*l.* for this purpose on condition that the town contributes another 30,000*l.* At the same time the "Lagerhaus," which was built on to the castle in Napoleon's time, is to be transformed into a museum for the reception of the Roman statues and antiquities.——In view of the Elbe-Trave Canal, the Stettin Chamber of Commerce has petitioned the Minister of Finance for further improvements in the waterways between Berlin and Stettin.——The Rhenish-Westphalian Art Union has granted 1,500*l.* towards the further decoration of the Dusseldorf Town Hall, which will take the form of paintings by Bauer, Klein and Neuhaus.——At the April meeting of the Berlin Archæological Society, Herr Heyne lectured on the excavations undertaken by the Royal Museums under his direction at Magnesia on the Mæander in Asia Minor. The examination of the Artemision, built by Hermogenes, which had been abandoned by the French expedition of 1842 owing to the extremely unhealthy climate, was thoroughly completed and the building found to tally in every way with Vitruvius' description. The Temple faces the west, and has eight columns at each end and fifteen on either side; the cella has three aisles. The whole building is supported on a platform which is reached by nine steps.

MISCELLANEOUS.

REREDOS, NORTH LEW CHURCH.—At North Lew Parish Church, on the north-west border of Dartmoor, a reredos has just been erected. It is divided into three compartments, the central one being canopied and groined. In the midst is a representation of the Crucifixion carved in high relief. On the north side is the figure of Mary. The reredos is made, in its entirety, of Caen stone. The work has been carried out by Messrs. Harry Hems & Sons, of Exeter.

GLASGOW BUILDING TRADES' EXCHANGE.—A general meeting of the members of the recently-formed Building Trades' Exchange for the city and district of Glasgow was held on the 18th inst. for the purpose of considering the report of the Committee appointed to draw up a scheme for the organisation of the Exchange. The Chairman, Mr. Andrew Gray, said it was very gratifying that the matter of the Exchange had been gone into so actively, and he was glad to see present representatives from the architects, measurers, and builders in the city. They wished to have the hearty co-operation of all connected with the building trade, as the Exchange was intended to assist all connected with the trade. He had not the slightest hesitation in saying that he believed that before long they would have one of the best Building Exchanges in the world, not even excepting any of the flourishing Exchanges in America. The report regarding the organisation of the Exchange was then submitted. The Association is to have a capital of 10,000*l.*, divided into 1,000 shares of 10*l.* each, and the membership is to be of a corporate and non-corporate character. There is to be an Executive Council of twenty-one members. The report was adopted, and Mr. W. M. Cunningham, writer, 93, West Regent-street, was elected Secretary, and Sir William Arrol President.

POLYTECHNIC EDUCATIONAL HOLIDAY TOURS.—A students' trip to Paris has been arranged for Whitsuntide, and especially for art and architectural students. The party will leave Holborn Viaduct on Friday, May 11, at 8.15 p.m., and travel first-saloon on boat, and second-class rail, *viâ* Dover and Calais. Three full days will be spent in Paris, and the party will arrive in London at 6 a.m. on Tuesday, the 15th. The fee, including hotel expenses to *bonâ-fide* students of the Polytechnic will be 2*l* 10s., and to others 2*l* 15s. A special fortnight's holiday tour to Lucerne has also been arranged for building students and members of the art classes. The party will leave London on July 20. Any student desirous of taking advantage of either of the above tours should communicate with the secretary, the Polytechnic, 309, Regent-st., W.

CRYSTAL PALACE SCHOOL OF PRACTICAL ENGINEERING.—On Saturday last the students and friends of the Crystal Palace School of Practical Engineering assembled in the lecture theatre at the Crystal Palace, when certificates were distributed to those who had been successful during the past term by Sir Edward H. Carbutt. The reports of the examiners upon the work of the students during the Easter term bore testimony to the high standard of efficiency which continues to characterise this school, not only in the practical and civil engineering departments, but also in the electrical sections. Sir E. H. Carbutt, in addressing the students, said he thought with regard to electrical engineering that, with the exception of America, England was in advance of all other countries. He pointed out as indicative of the scope that was being afforded more and more every year to the members of the engineering profession, that whereas the capital of the Crystal Palace Company was but a million and a half, the nation now spent in the construction of single battleship a million of money, and it necessitated an amount of work for those engaged in con-

structing the engines, machinery, watertight bulkheads, &c. The chairman contended that there was every inducement for young engineers to work hard in connexion with their profession, and he believed that in this country there would be demands upon their services as much in the future as ever there had been in the past. Mr. Green, Mr. Rait, and Mr. Wilson also took part in the subsequent proceedings, the former strongly urging the desirability of forming an "Old Students' Society."

PLUMBING WORK IN BELFAST.—The Lord Mayor of Belfast presided at the fourth annual meeting of the Ulster District Council for the National Registration of Plumbers at the Town Hall on the 16th inst., and, in moving the adoption of the report, said that it was satisfactory to note that the plumbing work in Belfast had very much improved during the last three or four years, and he thought this was most creditable to the master plumbers and their workmen.

CO-OPERATION IN THE BUILDING TRADE.—A meeting was held at the Club and Institute Hall, Clerkenwell-road, on the 21st inst., when representatives from various building trade unions met to discuss the possibility of co-operation, and to consider the scheme submitted on behalf of the General Builders' Co-operative Association. The chairman, Mr. Saunders, of the Amalgamated Carpenters and Joiners, called on Mr. H. H. Vivian, of the same society, to open the discussion. Mr. Vivian, with a passing reference to the benefits secured by the influence of the different trade unions, pointed out that although these organisations were doing good work, some of the workers felt that they must now turn to co-operation as a means of bettering the conditions of those engaged in the building trade. Already co-operative productions had been tried successfully in various industries. There was, for instance, the Walsall Padlock Society, which, although it had only 83*l.* capital at commencement, had now 3,767*l.* of loan capital and a reserve fund of 1,500*l.*, while wages were paid on an average of 8½per cent. over the usual trade union rates. In the building trade they had a better opportunity than the other trades of forming a co-operative society, inasmuch as they received better wages and worked shorter hours than most other trades. They had already arranged a constitution for a society, which they suggested should be called the General Builders' Co-operative Society, and of which they proposed to form a branch in every district. They proposed that the society should build for their own members, and should compete with the jerry builder. They did not, however, propose to commence active business until they had at least several thousand pounds of capital. The meeting accepted a resolution commending the society to the members of the building trades for support.

WOLVERHAMPTON MASTER BUILDERS' ASSOCIATION.—The inaugural dinner of the Wolverhampton Master Builders' Association took place on the 19th inst., at the Star and Garter Hotel, Wolverhampton. Mr. Henry Gough occupied the chair. The Chairman proposed "Success to the Association," and in doing so he said it was a young association, and expressed a hope that by this time next year the membership would be augmented. Mr. Skett, who responded, referred to the carpenters' strike, and said that so far as he knew the present difficulty stood just as it did a month ago. There was no likelihood of any termination at present. It was a very unfortunate thing that the representatives of the men did not accept the suggestion to refer the matter to arbitration. Mr. Bradney submitted "The Local Authorities," and spoke of the help which the Corporation, School Board, and Board of Guardians had given to the building trade. There was going to be another workhouse built, and the Corporation had been instrumental in securing the erection of a new post-office. The Corporation, however, gave them a lot of trouble with regard to the passing of plans, and he should like to see some alteration which would enable the committee to pass the plans more quickly. Councillor Shepherd acknowledged the toast. With regard to the passing of plans, he would point out that public bodies which met about once a fortnight or so could not rush things through, and it took time for plans to be sanctioned by the Council afterwards. He did not think there had ever been any hard and fast rule preventing anyone going on with their building, supposing plans had passed the committee. One other point he would like to touch upon, and that was the question of contracts in connexion with the Corporation. He had heard of cases when the person whose tender was lowest had not been accepted. He contended that before any tender was opened the name of the person tendering should be endorsed on the outside. The chairman of the committee would then know whose tender he was going to open; and if there was any particular fault to be found with the firm it could be spoken of before.

SHEFFIELD AMALGAMATED SOCIETY OF CARPENTERS AND JOINERS.—The thirty-fourth annual report of this society is now in the hands of members. The general secretary states that at the commencement of the year those who are engaged in house building secured, in many instances, increased wages and improved working rules. Later in the year there was a series of local lock-outs. During the year remittances amounting to 3,000*l.* were sent to Australasia for benefits to members who had been thrown out of employment by the continued depression in trade there. Assistance had been rendered to the miners in their struggle for a living wage to the extent of 950*l.* Turning to the progress made during the past year, the secretary states that 56 new branches were opened, 38 in England and Wales, 12 in Ireland, 3 in Scotland, 2 in the United States, and 1 in South Africa. On the other hand, 2 branches had been closed in England, 1 in Ireland, and 3 in the United States. The net increase had been, therefore, 50 branches and 3,408 members, bringing up the total to 629 branches and 40,996 members. The income amounted to 109,722*l.* 12s. 8d., increase 10,898*l.* 12s. 0½d.; the expenditure, 109,441*l.* 13s. 10½d., or 18,596*l.* 13s. 11d. in excess of the previous year. Notwithstanding this exceptionally heavy outlay, the cash balance has been increased from 72,639*l.* 12s. 5½d. to 72,920*l.* 11s. 3d. The assets had been estimated at 79,449*l.* 1s. 3d. or 2*l.* 1s. 7d. per ordinary member. In unemployed benefit—the weekly allowance to members thrown out of work through depression in trade—amounted to 30,508*l.* 12s. 5½d., or 19s. 5d. per member, being 5s. 9½d. per member more than in 1892, but considerably less than the years 1885 to 1888.

PRIVATE BILL LEGISLATION.—The Commons Committee, presided over by Mr. Coddington, proceeded, on the 19th inst., further with that portion of the London County Council (General Powers) Bill, which proposed that the owner of any building designed for use in flats or tenements, the common staircase of which is open at night, should be bound to light such staircase or passage, and to keep the same lighted from sunset to sunrise on every night to the satisfaction of the lighting authority of the parish. Any lighting authority might, by agreement with the owner, undertake the provision and maintenance and lighting and extinguishing of lamps on agreed terms. The proposed clause was opposed by certain owners of model dwellings. The Committee, in passing it, annexed the condition that half the cost of the gas consumed, in pursuance of the requirements of the lighting authority between the hours of half-past 11 p.m. and 6 a.m. should be repaid by the lighting authority to the owner half-yearly on demand. Consideration of the remaining provisions of the Bill was adjourned. In the Committee presided over by Sir J. Pease, the Surrey Commercial Docks Bill was under consideration. The Bill proposed the making of a new entrance some distance further down the river to the Greenland Dock, for the accommodation of timber and grain trade vessels, and other works in the docks. The measure was opposed by the London County Council and the Kent Water Company, on ground of interference with streets, sewers, and water mains. The Committee decided not to require the company to make two swing bridges asked for by the London County Council.

MEETINGS.

FRIDAY, APRIL 27.

Architectural Association.—Mr. R. A. Briggs on "Modern House-planning." 7.30 p.m.

SATURDAY, APRIL 28.

Architectural Association.—Visit to All Saints' Church and St. Barnabas' Church, West Dulwich.

Queen's College, Cork.—**Mr. Arthur Hill on "The History of Architecture." XV. 3 p.m.**

MONDAY, APRIL 30.

Surveyors' Institution.—Mr. Harold Griffin on "Weekly Property as an Investment." 8 p.m.

Sanitary Institute (Lectures on Meteorology in Relation to Hygiene).—Mr. R. H. Scott, M.A., F.R.S., on "Barometric Conditions and Air Movements." 8.30 p.m.

TUESDAY, MAY 1.

Institution of Civil Engineers.—Mr. W. Colquhoun on "The Manufacture of Briquette Fuel." 8 p.m.

Society of Biblical Archæology.—8 p.m.

Glasgow Architectural Association.—Mr. John Fairweather on "Planning of Public Baths." 8 p.m.

WEDNESDAY, MAY 2.

Institute of Builders.—Annual Dinner, the Grand Hotel, Charing Cross. 6 p.m.

Royal Archæological Institute of Great Britain and Ireland.—Exhibitions of (1) Photographs of Stones, from the Drift Deposits, Long Island, U.S.A.; (2) Rubbing of a Monumental Brass, lately found in Tong Church, Shropshire. Paper by Mr. F. C. J. Spurrell on "Remedies in the Sloane Collection and on Alchemical Symbols." 4 p.m.

Society of Arts.—Mr. A. G. Charleton on "Nickel." 8 p.m.

Builders' Foremen and Clerks of Works' Institution.—Ordinary meeting. 8.30 p.m.

Edinburgh Architectural Association.—Mr. Hippolyte J. Blanc on "The Collegiate Churches of Scotland." 8 p.m.

Institution of Civil Engineers of Ireland.—Meeting at 35, Dawson-street, Dublin.

THURSDAY, MAY 3.

Sanitary Institute (Lectures on Meteorology in Relation to Hygiene).—Mr. W. Marriott on "Moisture, its Determination and Measurement." 8.30 p.m.

Institution of Civil Engineers.—The Second "James Forrest" Lecture, "The Relation of Mathematics to Engineering," will be delivered by Dr. John Hopkinson, F.R.S. 8 p.m.

FRIDAY, MAY 4.

Architectural Association.—Members' *Soirée*, to be held in the Holborn Town Hall. 7.45 p.m.

SATURDAY, MAY 5.

Queen's College, Cork.—**Mr. Arthur Hill on "The History of Architecture." XVI. 3 p.m.**

Edinburgh Architectural Association.—(1) Visit to Biel; (2) Visit to Stenton Church.

RECENT PATENTS:

ABSTRACTS OF SPECIFICATIONS.

8,319.—WHITEWASHING: *E. A. Sherratt.*—The apparatus for distributing whitewash or distemper consists of a pan or well containing the wash or paint to be applied; this pan is attached to an adjustable upright or oblique beam moving on wheels. Within the pan is a revolving brush and a smoother. The use of the apparatus so designed is to prevent splashing and damage to carpets, furniture, &c.

8,944.—DRAIN-PIPES: *F. Thomas.*—The end of each pipe is, according to this invention, serrated or grooved, and these ends are left unglazed; the ends are then dipped in water, so as to make the cement hold. The ends of the pipe are then placed together, but before pressing them tightly, water is thrown inside the socket so as to run down over the cement, and make a perfectly-sealed joint. The ends present a perfectly smooth surface, and when they are set, the ordinary sockets for clay may be used, or cement packing may be employed.

9,201.—VENTILATORS: *S. Chitty.*—This invention consists in protection plates or shields fixed on to or placed at the back part of the ventilator, having openings for the passage of air and an intermediate plate with perforations, so arranged as to prevent a reverse current to the ventilator and to facilitate and regulate the passage of air.

9,381.—GLAZING BRICKS: *W. Crookes.*—This patent relates to an improvement in the material of which the brick is composed, and the "slip" for glazing, which is made with exact adjustment to the quality of the earth employed in making the bricks.

10,065.—BENCH HOLDER: *A. E. Shore.*—According to this patent the object is to hold the work rigidly to the bench. This is accomplished by screwing a wood screw to the bench, and fixing thereto a curved plate by means of fly nut and spikes.

12,185.—RING SASH-LIFTS: *W. H. Rooke.*—The rings for lifting sashes are pressed out of metal by a die, and an attachment plate is also made by a similar operation.

19,792.—SCREWS: *R. Restall.*—The point of the screw is made in the form of a boring-bit. The shank is reduced in diameter, and a groove is made around it. A slight projection is formed at right angles to the shank, to allow of the clearance of the displaced wood.

431.—FLUSH CISTERN: *E. Reisser* (Stuttgart).—Relates to a rotary receptacle for water-closets, inside of which receptacle is a scoop or funnel and conduit, so that at each past rotation the funnel is filled with water, and on the return of the receptacle to its position the water is conducted to and cleanses the basin.

2,414.—DISCHARGE IN WATER-CLOSETS: *S. G. Dutton.*—The specification describes somewhat elaborate mechanical means for actuating the discharge-valve and connecting the funnel and trap to the junction of the soil-pipe.

2,466.—IMPROVEMENTS IN WATER-CLOSETS: *G. Thomson and another.*—The essential feature of the closet is a tube and collar arrangement provided for the purpose of retaining and discharging its water. This consists of a long central tube, to which are attached a number of auxiliary tubes sliding up and down a collar composed of a number of short tubes, so arranged that when the tube is slid down in its collar, the contents of the closet pass down through the central tube. When the tube is drawn up, the auxiliary tubes cause a number of columns of water to act through the medium of a number of columns of air and press with their united pressure in a contrary direction the water, preventing its exit. Any excess of water carried over the top of the main tube.

NEW APPLICATIONS FOR LETTERS PATENT.

APRIL 9.—6,996, R. Dampier, Windows.—6,997, H. Hellier, Sash Fasteners, &c.—7,000, A. Butler, Window Frames.—7,021, J. Becker, Apparatus used as fire-escapes and Scaffolding.

APRIL 10.—7,084, W. Vaughan, Water-tap Fittings.—7,090, J. Stoker and C. Heckford, Soldering-irons.—7,092, W. Brighton, Log Band-saw Adjuster.—7,129, R. Matthews, Whitelead.—7,137, G. Nudên, Parquet-plates for Floors, Ceilings, &c.—7,149, H. Lake, Flushing Cisterns for Water-closets.—7,174, J. Pope, Joiner's Ploughs.

APRIL 11.—7,028, A. Jones, Sinks.

APRIL 12.—7,266, R. Barker, Joint or Coupling for Water-closet and other Pipes.—7,270, J. Garrood, Flush-out Cisterns, working with a Syphon.—7,312, M. Brophy, Hospitals and means of Ventilating same.

APRIL 13.—7,337, J. Tonkin, Door Locks.—7,342, J. Williams and others, Glazing.—7,355, N. Simmons, Detachable Joint for Water-pipes, Soil-pipes, Sewers, &c.—7,356, N. Simmons, Flushing-valve and Water-closet Attachment.—7,370, E. Bowman, Water-waste Preventer.

APRIL 14.—7,411, G. Copping, Scaffolding.—7,415, W. and T. Fox, Joiners' Traces, &c.—7,420, W. Hodgson Sash Weights.—7,460, A. Frazer, Joiners' Gauges.—7,471 C. Hodgson, Gully Trap.

PROVISIONAL SPECIFICATIONS ACCEPTED.

2,197, H. Blake and G. Day, Sash Hanging.—2,825, T. Johnson, Stoves, and the Prevention of Down Draught.—4,447, H. Jury and H. Cockell, Drain-pipe Support.—5,123, K. Stiekle, Paint Brushes.—5,535, F. Spicer, Window-sash Fastener.—5,608, J. Noble, Fireproof and Insulating Paint.—5,723, W. Henderson and E. Lacey, Garden Paths and Gravel Walks.—5,743, M. Syer, Flushing-tank Valves.—5,748, J. Driver and H. Gleedhill, Strainers for Gullies or other similar Sewer Traps.—5,793, W. Turner, Fireplaces and Ranges.—5,868, W. Morris, Sewer Pipes.—5,869, G. Pennie and W. Cockburn, Water-cistern for Flush-out Closets, &c.—5,980, G. Renwick, Appliances for Use when Sawing Mitres.—6,011, A. Edells, Mouldings, Cornices, &c.—6,017, G. Clinton-Baker, Hinges for Gates and Doors.—6,050, W. Allen, Flushing Cisterns.—6,331, W. Prebble, Protecting Unburnt or Green Bricks Against the Weather.—6,411, J. Welch, Ventilator and Skylight.

COMPLETE SPECIFICATIONS ACCEPTED.

(Open to Opposition for Two Months.)

9,289, W. Hargreaves, Fireproof Stages for Theatres and Other Buildings.—11,025, J. Meyer, Window Guards.—20,381, E. Claremont, Joints for Electric Light Fittings. 1,203, W. Taylor, Door Stop.—4,950, M. Adams, Automatic Flushing Apparatus.

SOME RECENT SALES OF PROPERTY:

ESTATE EXCHANGE REPORT.

APRIL 16.—By *Montagu, Robinson, & Watson:* 64 to 70 even, Cornbury-rd., Rotherhithe, u.t. 82 yrs., g.r. 18*l.*, 470*l.*; 34, 36, 43 to 49 odd, Edale-rd., u.t. 82 yrs., g.r. 28*l.*, 560*l.*; 63, 65, 67, High Cross-rd., Tottenham, u.t 84 yrs., g.r. 13*l.* 10s., 340*l.*—By *Matthews & Matthews*

COMPETITION, CONTRACTS, AND PUBLIC APPOINTMENTS.

COMPETITION.

Nature of Work.	By whom Advertised.	Premiums.	Designs to be delivered.
Laying-out Building Estate, Lancaster Marsh	Lancaster Corp.	50*l.* 25*l.*	June 1

CONTRACTS.

Nature of Work or Materials.	By whom Required.	Architect, Surveyor, or Engineer.	Tenders to be delivered.
*Road Works	Beckenham Local Bd.	J. A. Angell	April 30
*Engineering Fittings at Workhouse	St. George-s-in-the-East Guardians	Wilson, Son, & Aldwinckle	do.
Sewering, Channelling, &c. Roads, Lakenham, Norwich	,,	G. Fitt & Co.	May 1
Artists' Studio, West Bowling, Bradford	,,	Parkinson & Miall	do
Shop, New-street, Barnsley	,,	H. Crawshaw	do.
Storage Reservoir, Burton Bradstock	Bridport Watrwks Co.	J. E. Shopland	do.
Flagging, &c. Bailiffgate-street	Alnwick Local Board	G. Wilson	do.
Sewering, Paving, &c. Wilton-road, &c.	Astley Bridge Loc. Bd.	W. J. Lomax	do.
Primitive Methodist Chapel, Burghclere, Hants	J. T. Stead	,,	do.
Two Verandahs, Shudehill, &c.	Manchester Corp.	*Official*	do.
*Jarrah Wood Blocks	St. George-the-Martyr Vestry	do.	do.
Workshop, &c. at Schools, Ovenden	Halifax School Board	Horsfall & Williams	May 2
School Buildings, Morley Hill, co. Durham	Whickham School Bd.	T. C. Nicholson	do.
*Church, Alsager, near Crewe	,,	Paley, Austin & Paley	do.
Mill Premises, &c. Gildersome-road, Morley, Yorks	Jas. Barker	G. B. Clegg	do.
School Buildings, Ffaldan, Pontycymmer, South Wales	Llangeinor School Bd.	P. J. Thomas	do.
Church Restoration, Easington, Durham	,,	Hicks & Charlewood	do.
Parish Room, Westerfield, Ipswich	,,	E. F. Bisshopp	do.
Congregational Chapel, Caerphilly, Wales	,,	J. H. Phillips	do.
Convent Chapel, Cork	,,	S. F. Hynes	do.
Paving, Forming, &c. Broom-lane	Levenshulme Loc. Bd.	J. H. Maybury	May 3
*Laying Iron and Stoneware Pipes	Eastleigh Loc. Bd.	H. J. Weston	do.
*Laying 30,000 yds. Tar Paving	East Barnet Valley Local Board	G. W. Brumell	do.
Widening Bridge, Newburn	Northumberland C. C.	*Official*	do.
*Internal Cleansing, &c. of Infirmary	Fulham Union	do.	do.
*Repairing Shop, Gloucester	Midland Railway Co.	do.	May 4
*Cleaning and Painting Works	do.	do.	do.
School Buildings, Bolehill	Sheffield School Board	W. J. Hale	do.
Hotel and Boarding House, Oulton Broad, Suffolk	,,	G. Fitt & Co.	May 5
Church, Pengarnddu, Dowlais, Glam.	,,	E. M. B. Vaughan	do.
Four Houses, Hughenden-road, Lakenham, Norfolk	,,	G. Fitt & Co.	do.
Eight Scullery Houses, Clayton, Yorks	,,	S. Spencer	do.
Drainage and Water Supply Works, Chesthunt	Jas. Bunce	,,	do.
*Six Villas, Cheshunt, &c.	,,	J. Bunce	do.
Paving Setts (1,100 tons)	Ormskirk High. Bd.	*Official*	do.
*Painting Works, St. John's Relief Station	St. Marylebone Guar.	do.	May 7
Reconstructing Drains at Workhouse	Liverpool Vestry	do.	do.
*Sewerage Works	Rawtenstall Corp.	do.	do.
Additions to Institution Buildings, Palmerstown, co. Dublin	Stewart Inst. for Imbecile Children	G. P. Beater	do.
Cattle Shed, Market-street	Newbury Corporation	E. A. Strickland	do.
Stoneware Sewers (840 yards)	Louth Sanitary Auth.	T. Rowland	do.
Waterworks Filters, Amlaird, near Fenwick	Kilmarnock Corp.	Jas. Wilson	do.
Dock Extension	Belfast Harb. Comrs.	G. F. L. Giles	do.
Technical School, &c. Godalming	,,	S. Welman	do.
Slaughter-houses, Holt-road, Wrexham	,,	J. W. M. Smith	do.
Business Premises and House, Town's-street, Stanningley, Yorks	,,	H. Hodgson	do.
Sewering, Paving, &c. West-street	Cleethorpes Local Bd.	T. Rowland	May 8
Valves and Sluices	Dewsbury & Heckmondwike Waterworks	G. H. Hill	do.

CONTRACTS—*Continued.*

Nature of Work or Materials.	By whom Required.	Architect, Surveyor, or Engineer.	Tenders to be delivered.
*Two Corrugated-iron Roofs	Spalding Impt. Com.	*Official*	May 8
*Supply of Road Materials	Lewisham Bd. of Wks.	do.	do.
*Making-up Roads, &c.	do.	do.	do.
*Paving Works, Pipe Sewers, &c.	Borough of West Ham	L. Angell	do.
*Water Supply Works	East Cowes L. B.	Lemon & Blizard	do.
*Erection of Buildings, &c.	Barking Town Loc. Bd.	C. J. Dawson	do.
*Erection of School, &c.	Clay Lane (U.D.) Sch. Bd.	Rollinson & Son	do.
Additions to School Buildings, Caldicot, near Chepstow	The Managers	F. R. Bates	May 9
Architectural Works on Railway, Darlington	Wear Valley Extension Railway	W. Bell	do.
*Cleansing and Painting Works	Wandsworth and Clapham Union	W. C. Poole	do.
Reconstruction of Bridge, Harvey-lane	Golborne (Lancashire) Parochial Commitee	C. S. Bennie	do.
School Buildings, near Barnsley	Carlton Sch. Bd.	Senior & Clegg	do.
*Making-up and Paving Road	Fulham Vestry	J. P. Norrington	do.
Residence, Vicarage-road, Hunstanton	,,	G. Fitt & Co.	May 10
Two Cottages, Brynfield, Ruabon	Oddfellows' Friendly Society	,,	May 11
*Post Office, Bury-St.-Edmunds	Com. of H.M. Works.	*Official*	do
Whinstone Road Metal (3,000 tons)	Bulmer West Highway Board	do.	do.
Cast-iron Pipes and Castings	Rudgeley Loc. Bd.	W. H. Radford	May 12
Service Reservior, &c.	do.	do.	do.
Additions to Town Hall, Waterloo, Lancashire	Waterloo - with - Seaforth Loc. Bd.	F. S. Yates	May 14
*Making-up Roads	Chiswick Loc. Bd.	A. Ramsden	May 16
*Guernsey Granite Pitchings	St. Matthew (Bethnal Green) Vestry	F. W. Barratt	May 17
Police Station, Scotswood-road	Newcastle - on - Tyne Corp.	Marshall & Dick	May 19
*Repairing and Painting Schools, Sutton	South Metropolitan Sch. Dist.	Mr. Church	May 21
*Schools, Swansea	Swansea U.D. Sch. Bd.	G. E. T. Laurence	May 22
*Public Conveniences, Southwark Park	London County Council	*Official*	do.
*Painting Works, Woolwhich District	War Department	do.	No date
*Painting Works, Chelsea and Hounslow	do.	do.	do.
Widening and Sinking Colliery Shaft, near Derby	Kilburne Colliery Co.	do.	do.
School Buildings, Unsworth, Lancashire	,,	J. D. Mould	do.
Church Schools, Alton Towers	,,	J. H. Gibbons	do.
School Buildings, Widnes	,,	J. D. Mould	do.
Additions to Victoria Hotel, Wallgate, Wigan	,,	Heaton & Ralph	do.
*Workhouse Infirmary	Brentford Union	W. H. Ward	do.
Additions to Grammar School, Farnham	The Governors	P. Watson	do.
*Additions to School	Farnham Grammar School	Paxton Watson	do.
Wrought Iron Fencing and Gates	Withington (Lancs.) Loc. Bd.	A. H. Mountain	do.
Two Shops and Houses, Westgate Peterborough	Mr. Neal	W. Boyer	do.
100 Cottages, Denaby Main, Yorkshire	Colliery Co.	,,	do.
Farm Buildings, Hurst, near Southwaite	Jas. Harrington	,,	do.
Three Cottages, Buckley Hill-lane, Milnrow, Lancashire	J. Whitehead	,,	do.

PUBLIC APPOINTMENTS.

Nature of Appointment.	By whom Advertised.	Salary.	Applications to be in.
*Works Manager	West Ham Council	250*l.*	April 30
*Building Inspector	do.	150*l.*	do.
Engineering Assistant	Walsall Corporation	120*l.*	May
*Foreman of Sewers, &c.	Newington Vestry	2*l.* 5*s.*	May 7
*Foreman of Roads, &c.	do.	2*l.* 5*s.*	do.
*Surveyor	Lambeth Vestry	500*l.* &c.	do.

Those marked with an Asterisk (*) are advertised in this number. *Contracts, pp.* lv., vi., viii., *and* ix. *Public Appointments, p.* xxi.

9 and 11, Perry Hill, Catford, u.t. 77 yrs., g.r. 10*l.*, r. 71*l.*, 800*l.*; 18, Henry-st., St. John's Wood, u.t. 25 yrs., g.r. 5*l.*, 355*l.*; 21, Henstridge-villas, u.t. 40 yrs., g.r. 5*l.*, r. 38*l.*, 360*l.*

APRIL 17.—By *Horncastle, Pember, & Taylor:* F.g.r. of 21*l.*, Cromwell-rd., Croydon, reversion in 86 yrs., 360*l.*; a f. cottage and o a. 2 r. 17 p., Cowley, near Uxbridge, 450*l.*—By *Howell, Son, & Bonnin:* 9, Merton-rd., Kensington, u.t. 59 yrs., g.r. 1*l.*, r. 50*l.*, 530*l.*—By *Giddy & Giddy:* "Park Lodge" with grounds, Eltham, Kent, u.t. 80 yrs., g.r. 27*l.* 10s., 1,500*l.*—By *E. & H. Lumley:* The lease of No. 87, Piccadilly, u.t. 8¼ yrs., r. 260*l.*, 500*l.*—By *Chinnock, Galsworthy, & Co.:* Nos. 179, 179A, and 181, Regent's-street, u.t. 27 yrs., g.r. 7*l.*, r. 500*l.*, 7,100*l.*; 30, Wyndham-st., Marylebone, f., r. 32*l.*, 710*l.*; 3, Circus-st., f., r. 30*l.*, 550*l.*; 1 Nelson-pl., f., r. 10*l.*, 195*l.*; Nos. 3, 4, 36 and 43, Homer-st., f., r. 165*l.*, 2,970*l.*; 9, Homer-row, f., r. 21*l.*, 350*l.*; F. Fee farm, rent of 7*l.* 7s., Homer-st., 210*l.*; 55, Huntley-st., Tottenham Court-rd., f., r. 50*l.*, 870*l.*; l.g.r. of 66*l.* Northwick-ter., Maida Vale, u.t. 24 yrs., g.r. 5*l.*, 925*l.*

APRIL 18.—By *D. Young:* 55 to 61 (odd), Barry-rd., Dulwich, u.t. 82 yrs., g.r. 29*l.* 8s., r. 132*l.*, 1,060*l.*; 56, Hinton-rd., Herne Hill, u.t. 79 yrs., g.r. 5*l.* 10s., r. 35*l.*, 270*l.*; 45, 47, Carpenter-st., Battersea, u.t. 77 yrs., g.r. 9*l.* 10s., r. 52*l.*, 240*l.*; 42, Home-rd., u.t. 79 yrs., g.r. 8*l.*, r. 34*l.*, 155*l.*; 52, 54, Rawlings-st., Chelsea, u.t. 49 yrs., g.r. 14*l.*, r. 100*l.*, 885*l.*; 3 to 9 (odd), Eyot-gardens, Hammersmith, u.t. 82 yrs., g.r. 24*l.*, r. 72*l.*, 740*l.*; l.g.r. of 5*l.* 10s., Station-rd., Shepherd's Bush, u.t. 71 yrs., g.r. 2*l.*, 64*l.*; 30 to 38 (even), Station-rd., u.t. 71 yrs., g.r. 10*l.*, 930*l.*; 4 and 6, Orchard-rd., u.t. 71 yrs., g.r. 6*l.*, 265*l.*; 7, Shrewsbury-rd., Westbourne Pk., u.t. 65 yrs., g.r. 10*l.*, r. 45*l.*, 325*l.*; 59, Queen's-rd., Bayswater, u.t. 17 yrs., g.r. 46*l.*, r. 90*l.*, 200*l.*; 35, Acklam-rd., Notting Hill, u.t. 72 yrs., g.r. 8*l.*, r. 38*l.*, 240*l.*; 79, 83, 85, Hertford-rd., Hackney, u.t. 16 yrs., g.r. 72*l.* 4s., 120*l.*; 39, 41, 43, Wells-st., and 1 to 8, St. Thomas-pl., u.t. 10 yrs., g.r. 189*l.*, r. 395*l.* 8s., 285*l.*; Nos. 167, 167A, 169, 169A, 169B, Gray's Inn-rd., u.t. 15 yrs., g.r. 150*l.*, r. 210*l.*, 205*l.*; 31, Phillipp-st., Kingsland, u.t. 11 yrs., g.r. 6*l.* 6s., 40*l.*; No. 167, King's Cross-rd., u.t. 31 yrs., g.r. 4*l.*, r. 45*l.*, 250*l.*; l.g.r. of 24*l.*, Devon-rd., Bromley-by-Bow, u.t. 46 yrs., g.r. 10*l.* 10s., 220*l.*; 27, Woodstock-rd., Finsbury-Pk., u.t. 73 yrs., g.r. 6*l.* 10s., r. 36*l.*, 395*l.*; 27, St. Mary Church-st., Rotherhithe, f., r. 26*l.*, 155*l.*; 7, 8, Adam's-pl.; 13, 15, Adam's Gardens, f., 155*l.*; 14, Berner's Mews Oxford-st., u.t. 31 yrs., g.r. 8*l.*, r. 50*l.*, 325*l.*; 1 to 7, Kilburn-sq., Kilburn; and 113, 115, 117, High-rd., u.t. 30 yrs., r. 38*l.*, subject to an l.g.r. of 40*l.* a year, 2,000*l.*—By *W. P. Goulding* (at Brighton): 16, Buckingham-pl., Brighton, f., r. 48*l.*, 850*l.*; 69, Landsdowne-pl., Hove, f., r. 80*l.*, 1,300*l.*—By *Wriford & Dixons:* 9, Gough-rd., Stratford, f., r. 22*l.*, 180*l.*; f.g.r. of 10*l.* 10s., Bedford-ter., Holloway, reversion in 63 yrs., 245*l.*—By *Driver & Perfect:* 3, Middlesex-st., Holloway, f., 270*l.*—By *Inman & Co.:* 1, 2, 3, Bell-ter., Kilburn, u.t. 67 yrs., g.r. 27*l.*, r. 170*l.*, 1,730*l.*; l.g.r. of 16*l.*, Albert Cottages, Bethnal Green, u.t. 23 yrs., no g.r., 170*l.*; l.g.r. of 165*l.*, Selby-st., &c., u.t. 24¾ yrs., g.r. 34*l.* 10s., 1,400*l.*

APRIL 19.—By *J. J Wheeler:* 10, Trevor-sq., Knightsbridge, u.t. 16 yrs., g.r. 4*l.*, 325*l.*; 71, Pulford-st., Pimlico, u.t. 36 yrs., g.r. 6*l.* 6s., r. 45*l.*, 410*l.*; 30, Gillingham-st., f., r. 36*l.*, 650*l.*—By *Stimson & Sons:* 99, East-st., Walworth, f., 875*l.*; 317, 319, Milkwood-rd., Herne Hill, u.t. 81 yrs., g.r. 14*l.*, r. 74*l.*, 615*l.*; 1, 2, 3, Pomfret-rd., u.t. 71 yrs., g.r. 15*l.* 15s., 600*l.*; 19, 21, Speenham-rd., u.t. 87 yrs., g.r. 15*l.* 10s., r. 86*l.*, 710*l.*; 42 to 45, Canal Bank, Peckham, f., 725*l.*; "Norfolk House," Circus-st., Greenwich, f., 550*l.*; 194, 196, 198, Camberwell Grove, Denmark Hill, f., r. 200*l.*, 1,890*l.*; 67, 69, 71, George's-rd., Holloway, f., 600*l.*; 73 to 87 odd, and 87a, George's-rd., f., 1,965*l.*; 2, 3, 4, Sun-st., Bermondsey, u.t. 26 yrs., g.r. 7*l.* 10s., 210*l.*; 23, 24, 25, Sun-st., u.t. 24 yrs., g.r. 4*l.* 10s., 100*l.*—By *Newbon & Co.:* 57, Martin-st., Stratford, f., r. 26*l.*, 240*l.*; "Brook House," Queen's-rd., Buckhurst Hill, f., 615*l.*; A plot of f. land, adjoining, 375*l.*; 6, 8, Nassau-rd., Stamford Hill, u.t. 80 yrs., g.r. 12*l.*, 260*l.*; 29, 31, Upper Pk.-st., Islington, u.t. 15 yrs., no g.r., r. 64*l.*, 400*l.*; 74, 76, Thornhill-rd., u.t. 15 yrs., g.r. 8*l.*, r. 80*l.*, 450*l.*; 69, John-st., u.t. 15 yrs., g.r. 1*l.* 10s., r. 24*l.*, 135*l.*; 3, Clapton Villas, Clapton, f., r. 36*l.*, 480*l.*; 45, College-st., Islington, u.t. 22 yrs., g.r. 7*l.*, r. 30*l.*, 175*l.*; 3, Southgate-rd., u.t. 24 yrs., g.r. 2*l.*, r. 45*l.*, 355*l.*; 53, 55, Freeling-st., Caledonian-rd., u.t. 50 yrs., g.r. 12*l.*, r. 105*l.* 3s., 570*l.*—By *Phillips, Lea, & Davies:* 2 and 4, Alie-pl., Whitechapel, u.t. 14 yrs., g.r. 55 yrs., r. 130*l.*, 265*l.*: 10, 11, New-st-sq., Fleet-st., u.t. 12 yrs., g.r. 12*l.*, r. 115*l.*, 680*l.*; 2 to 16 even, St. Thomas-pl., Goswell-rd., u.t. 55 yrs., g r. 44*l.*, 1,100*l.*; 10, Christopher-st., Finsbury-sq., u.t. 21 yrs., r. 80*l.*, 150*l.*; 19, 20, 21, Dyott-st., New Oxford-st., u.t. 5 yrs., g.r. 25*l.*, 350*l.*; 6, 8, Crondall-st., Hoxton, u.t. 23 yrs., g.r. 37*l.*, 130*l.*—By *H. J. Bliss & Sons:* A plot of f. land, Bacon-st., Bethnal Green 350*l.*; 20 22, 24 Howse-st., Kingsland, u.t. 12 yrs., g.r. 6*l.*, 300*l.*; 17, Bayston-rd., Hackney, u.t. 81 yrs., g.r. 5*l.* 10s., r. 34*l.*, 355*l.*; f.g.r. of 8*l.* 16s., Elmst., Plumstead, reversion in 31 yrs., 260*l.*; 113, 115, 117, Villas-rd., f., 600*l.*; 9, 11, Villas-rd., u.t. 21 yrs., g.r. 3*l.* 10s., 250*l.*; 53, Princes-rd., f., 220*l.*; 185, 187, Downham-rd., Islington, u.t. 47 yrs., g.r. 10*l.*, r. 76*l.*, 520*l.*; f.g.r. of 15*l.*, Bramcote-rd., Rotherhithe, reversion in 83 yrs., 395*l.*; f.g.r. of 25*l.*, ditto, in 83 yrs., 660*l.*; f.g.r. of 45*l.*, Delaford-rd., reversion in 83 yrs., 1,140*l.*; f.g.r. of 32*l.*, Richmond-rd., Bayswater, ditto in 52 yrs., 935*l.*; f.g.r. of 15*l.*, Artesian-rd., ditto in 52 yrs., 405*l.*; f.g.r. of 16*l.* 16s. Ledbury-rd., ditto in 52 yrs., 445*l.*; No. 379, Holloway-rd., u.t. 4 yrs., g.r. 14*l.* 12s. 6d., r. 70*l.*, 110*l.*; 2 to 15, Edenham-st., Westbourne Pk., u.t. 69 yrs., g.r. 76*l.*, 1,750*l.*; 115, 117, 119, Southam-st., u.t. 71 yrs., g.r. 15*l.*, 405*l.*; 39 to 47, St. Leonard-st., Bow, u.t. 59 yrs., g.r. 20*l.*, 830*l.*; 43 to 49 (odd), St. Margaret's-rd., Brockley, u.t. 68 yrs., g.r. 26*l.* 5s., r. 160*l.*, 1,250*l.*; 62 to 72 (even), Adelaide-rd., u.t. 68 yrs., g.r. 39*l.* 10s., r. 182*l.*, 2,365*l.*; l.g.r. of 28*l.*, Benwell-rd., Holloway, u.t. 69 yrs., g.r. 4*l.*, 535*l.*; i.g.r. of 24*l.*, Courtney-rd., u.t. 69 yrs., g.r. 6*l.*, 355*l.*; i.g.r. of 39*l.*, Castle-rd., Kentish Town, u.t. 41 yrs., no g.r., 805*l.*

APRIL 20.—By *Toplis & Harding:* 32, 33, North-st., Brighton, f., r. 44*l.*, 8,500*l.*; 2, 3, 4, Bay-st., Dalston, u.t. 28 yrs., g.r. 5*l.* 2s., r. 82*l.*, 400*l.*—By *Jones, Lang, & Co.:* 4, Fenn-ct., Fenchurch-st., f., r. 130*l.*, 4,350*l.*—By *Flood & Sons:* 18, Porchester-rd., Westbourne-grove, u.t. 44 yrs., g.r. 13*l.* 4s., r. 122*l.* 10s., 1,840*l.*; 20, Porchester-rd., u.t. 44 yrs., g.r. 1*l.* 6s. 8d., r. 131*l.*, 1,800*l.*—By *Brougham, Rogers, & Co.:* 12, 14, 16, Netherton-rd., Twickenham, u.t. 87 yrs., g.r. 25*l.* 10s., r. 116*l.*, 1,085*l.*—By *Phillips, Lea, & Davies:* 87, 89, 101, 161, 175, Liverpool-rd., Islington, u.t. 51 yrs., g.r. 32*l.* 18s., r. 223*l.*, 435*l.*; 61 to 75 (odd), Cable-st., St. George's-in-E., u.t. 5 yrs., g.r. 160*l.*, 110*l.*; 8, 9, 11, Russell-ct., Drury-lane, u.t. 8 yrs., g.r. 37*l.*, 290*l.*; 9, Woburn-pl., Russell-sq., u.t. 33 yrs., g.r. 60*l.*, r. 138*l.*, 95*l.*; "Aymonte," "Cidleigh House," and "Dunholm," Shaa-rd., Acton, u.t. 85 yrs., g.r. 30*l.*, r. 140*l.*, 1,075*l.*

[*Contractions used in these Lists.*—F.g.r. for freehold ground-rent; l.g.r. for leasehold ground-rent; i.g.r. for improved ground-rent; g.r. for ground-rent; r. for rent; f. for freehold; c. for copyhold; l. for leasehold; e.r. for estimated rental; u.t. for unexpired term; p.a. for per annum; yrs. for years; st. for street.; rd. for road; sq. for square; pl. for place; ter. for terrace cres. for crescent yd. for yard, &c.]

PRICES CURRENT OF MATERIALS.

TIMBER.

Memel heart, B.G.			
Riga, E.I.	load	9/0/0	0/0/0
Archangel, U.S.ft.cu		2/3	2/6
Quebec, Canada	load	2/15/0	4/0/0
Quebec, do.		2/5/0	3/5/0
Quebec, do.		3/10/0	4/15/0
Memel, Dantsic, &c.		1/5/0	2/10/0
Quebec, do.		2/10/0	4/15/0
Canada		5/10/0	7/0/0
Quebec, Canada red		2/10/0	3/0/0
Do. Yellow		2/10/0	4/15/0
Memel, Dantsic, fath		4/10/0	5/10/0
St. Petersburg		5/0/0	6/10/0
Memel, Riga, crown		2/5/0	4/10/0
Memel, log			
Memel, crown		2/5/0	4/10/0
Memel, Finland			
Memel and 1st std	100	8/0/0	10/10/0
Do. 4th & 3rd		7/10/0	8/0/0
Do. Riga		7/10/0	9/0/0
St. Petersburg, 1st yellow		10/0/0	13/10/0
Do. 2nd yellow		8/0/0	9/0/0
Do. white		8/10/0	11/0/0
Swedish		8/10/0	16/10/0
White Sea		8/0/0	16/10/0
Canada, Pine 1st		22/10/0	29/10/0
Do. do. 2nd		17/0/0	18/10/0
Do. do. 3rd, &c.		7/10/0	10/5/0
St. John, Spruce, 1st		9/0/0	11/0/0
Do. do. 3rd & 2nd		6/10/0	7/10/0
New Brunswick		6/0/0	7/5/0
Mahogany, all kinds		3/0/0	15/0/0
Mahogany, boards, 1 in. prep.			
Do. 1 in.		0/10/0	0/15/0
Do. mill		0/7/6	0/12/6
Other qualities		0/5/0	0/7/0
Cedar, Cuba ft.		3½	4½
Honduras, &c.		3½	4½
Mahogany, Cuba		3½	6
Do. Domingo, cargo av.		1/3	1/6
Mexican do. do.		1/3	1/4
Tobasco do. do.		3½	6
Honduras do.		3½	5½
Box, Turkey	ton	4/0/0	13/0/0
Lignum, Rio		8/0/0	18/0/0
Teak		7/0/0	17/0/0
Satin, St. Domingo		0/0/5	0/1/2

TIMBER (*continued*).

Satin, Porto Rico		0/0/6	0/1/6
Walnut, Italian		0/0/3½	0/0/7

METALS.

Iron—Pig, in Scotland	ton	2/2/8½	0/0/0
Do. Bar, Welsh, in London	ton	5/17/6	6/0/0
Do. do. at works in Wales		5/7/6	5/10/0
Do. Staffordshire, in London	ton	6/0/0	6/10/0
COPPER — British cake and ingot		42/0/0	42/10/0
Best selected		43/0/0	43/10/0
Sheets, strong		52/0/0	0/0/0
Chili, bars		40/3/9	40/8/9
YELLOW METAL	Ib	0/0/4½	0/0/5
LEAD — Pig, Spanish	ton	9/2/6	0/0/0
English com. brands		9/3/9	0/0/0
Sheet, English, 6 lbs. per sq. ft. and upwards		10/15/0	0/0/0
Pipe		11/5/0	0/0/0
ZINC — English sheet	ton	19/0/0	19/0/0
Vieille Montagne		19/10/0	0/0/0
TIN—Straits		69/15/0	70/5/0
Australian		70/7/6	70/17/6
English Ingots		74/10/0	75/0/0
Banca		75/0/0	76/0/0
Billiton		71/0/0	71/10/0

OILS.

Linseed	ton	19/12/6	20/0/0
Cocoanut, Cochin		28/10/0	29/0/0
Do. Ceylon		24/5/0	0/0/0
Palm, Lagos		23/10/0	0/0/0
Rapeseed, English pale		21/10/0	22/5/0
Do. brown		20/0/0	20/5/0
Cottonseed refined		21/10/0	21/15/0
Oleine		20/10/0	22/0/0
Lubricating, U.S.		4/0/0	5/0/0
Do. refined		5/0/0	12/0/0
TAR — Stockholm	barrel	0/22/0	0/0/0
Archangel		0/21/0	0/0/0

TENDERS.

Communications for insertion under this heading should be addressed to "The Editor," and must reach us *not later than 10 a.m. on Thursdays.*]

ALNWICK.—For the erection of a house, 12, Clayport-street, for Mr. J. R. Stephenson. Mr. Geo. Reavell, junr., architect, Alnwick:—

Mason.—J. W. Whinham	£129 10 7
Joiner.—W. J. Smith	99 14 6
Slater.—Joseph Purdie	18 4 6
Plasterer.—Joseph Pickard	29 5 0
Plumbers.—Wilkin & Dickman	26 0 0
Painters.—A. Robertson & Son	8 14 6

[All of Alnwick.]

BASFORD (Notts.)—Accepted for forming, draining, kerbing, &c., Lynn Croft and Walker-street, Newthorpe, for the Rural Sanitary Authority. Mr. Samuel Taylor, surveyor, Nuthall, near Nottingham.—

J. Tomlinson, Derby..... £1,295 0 0

BOURNEMOUTH.—For tar-paving in the Church-road, Victoria-road, Tamworth-place, Carnarvon Crescent, Malmesbury Pathroad. Mr. F. W. Lacey, A.M.Inst.C.E., Borough Engineer and Surveyor:—

Asphaltic Limestone Concrete Co. Ltd., 15 per cent. below schedule prices.
John Wainwright & Co.,* 20 per cent. below schedule prices.
North of England Asphalte Co. 5 per cent. above schedule prices.
Josiah Smart, 20 per cent. below schedule prices.
* Accepted.

BRIGHTON.—For the construction of concrete groyne, outlet, sewers, &c. (three contracts), for the Town Council. Mr. F. J. C. May, Engineer, Town Hall, Brighton:—

	A.	B.	C.	Total.
S. & E. Bentley	£19,934 0 0	£19,491 0 0	£35,362	£74,787 0 0
S. Pearson & Son	12,700 0 0	12,800 0 0	35,000	60,500 0 0
Pethick Bros.	9,944 0 0	9,954 0 0	37,644	57,542 0 0
Wilkinson Bros.	9,000 0 0	11,500 0 0	27,470	47,970 0 0
A. Kellett	9,436 0 0	8,992 0 0	28,540	46,968 0 0
G. Lawson	6,530 0 0	6,400 0 0	33,925	46,855 0 0
J. Longley & Co.	7,459 0 0	7,789 0 9	29,875	45,123 0 0
Mayfair & Toole	7,547 0 0	7,164 0 0	23,800	38,511 0 0
James Dickson	4,707 10 2	7,271 11 5	26,429	38,408 1 7
R. Cooke & Co., Battersea*	5,900 0 0	6,500 0 0	21,477	33,877 0 0
V. P. Freeman	8,820 0 0	9,520 0 0	—†	18,340 0 0

A. For concrete groyne, storm water outlet and overflow chamber opp. Western-street.
B. For storm water outlet and additions to groyne opp. Old Steine.
C. For 980 yds. of brick sewer, 8 ft. in diameter; 562 yds. of brick sewer of smaller dimensions; and certain pipe sewers.
* Accepted. † No tender for this work.

BROMLEY.—For the erection of a church and adjoining buildings in Freelands-road, Bromley, Kent, for the Presbyterian Church of England. Mr. John C. T. Murray, architect, 13, Queen Anne's Gate, Westminster, S.W. Quantities by Messrs. W. H. Barber & Son, surveyors, 22, Buckingham-street, Strand, W.C.:—

D. Charteris	£9,679	S. J. Jerrard	£8,933
Higgs & Hill	9,644	T. Crossley & Son	8,780
Holloway Bros.	9,048	Duncan Stewart	8,348
W. Johnson & Co., Ltd.	8,986	John Bentley	8,171
Jas. Longley & Co.	8,973		

CARDIFF.—For the construction of a brick sewer-ventilating shaft, 40 ft. in height, Cranbrook-street, for the Corporation. Mr. W. Harpur, C.E., Borough Engineer, Town Hall, Cardiff. Quantities by Borough Engineer:—

Thomas Rees	£186 10 6	Knox & Wells	£103 0 0
Evans & Jones	170 18 6	Cadwalladar & Hockridge	102 15 11
E. T. Trice	145 14 2		
Wood & Sons	142 15 11	Ellis & Davies, Cardiff (accepted)	98 7 0
Edward Page	110 9 2		
W. Thomas & Co.	107 2 3		

COLERAINE (Ireland).—For the erection of a wing to the Academical Institution, for the Board of Governors of the Institution. Messrs. W. & M. Given, architects, Diamond, Coleraine. Quantities by the architects:—

Charles Boyd	£3,600 0 0	Alexander Maxwell & Co.	£2,892 8 6
H. Laverty	3,384 0 0	Alexander Higgins	2,816 0 0
A. MacMaster	3,109 0 0	William Douglas	2,766 14 0
J. & W. Stewart	3,080 0 0	James Kennedy, Coleraine*	2,698 0 0
Campbell & Lowry	3,055 0 0	James Graham	2,690 0 0
Campbell & Son	3,050 0 0		
Cullen Brothers	2,990 0 0		

* Accepted.

DURHAM.—Accepted for the erection of six dwelling-houses, Atherton-street, for the Durham Equitable Co-operative and Industrial Society, Limited. Mr. H. Henry, architect, 11, North Bailey, Durham:—

Mason.—G. Bradley	£547 10 0
Joiner.—W. Walton	374 0 0
Slater.—T. W. Blakey	54 11 0
Plasterer.—R. A. Pearson	87 15 0
Plumber.—N. Almond	69 10 0
Painter.—T. H. Dodd	26 12 0

[All of Durham.]

DURHAM.—For additions, &c., to Bell's Folly, near Durham. Mr. H. T. Gradon, architect, 22, Market-place, Durham:—

H. Brown & Co.	£1,464 9 9	Wm. Walton	£1,356 10 0
J. Shepherd	1,455 0 0	J. Whaley	1,354 0 0
J. Oates	1,447 4 6	Draper & Sons	1,345 1 0
J. Kell	1,409 0 0	Wm. Wardropper, Durham*	1,337 0 0
T. Ainsley	1,358 18 9		

* Accepted.

EAST CROYDON.—Accepted for the erection and completion of a new sorting office at Cherry Orchard-road, East Croydon, for Her Majesty's Office of Works. Mr. John Tosh, architect. Quantities supplied by Mr. Chas. W. Stephenson:—

J. O. Richardson, Albert Works, Peckham .. £1,589 0 0

EASTLEIGH (Hants.).—For the erection and maintenance of engine and boiler-house, chimney shaft, &c., for the Local Board. Mr. H. J. Weston, C.E., 24, Portland-street, Southampton:—

F. Osman	£850	Roe & Grace, Southampton*	£833

* Accepted.

EAST STONEHOUSE.—For the extension of cast-iron outfall sewer, Eastern King, for the Stonehouse Lake Drainage. Mr. W. Stringfellow, Surveyor, Town Hall, East Stonehouse:—

Geo. Shellabear	£650 0 !	W. C. Shaddock, Compton Gifford, Plymouth*	240 12 !

* Accepted.

EBBW VALE (Mon.).—For the erection of Primitive Methodist chapel and schoolroom, for the Trustees. Mr. W. S. Williams, architect, 1, Elmwood, Tredegar, Mon.:—

H. Parfitt	£2,050	D. Panter, Broughton, Pershore, Worc.*	£1,810
R. Edwards	1890		
Davies & Co.	1,889		

* Accepted.

ECCLESFIELD (Yorks.).—Accepted for the erection of dwelling-house and store-rooms, for the Wortley Union Guardians. Mr. G. A. Wilde, architect, Bank-street, Sheffield:—

Wm. Laycock, Thurgoland, near Sheffield £429 0 0

FROME.—For the erection of a new farmhouse, on the Orchardleigh Estate. Mr. B. Vaughan Johnson, architect. Quantities by Messrs. Tucker & Huntly, 33, Argyll-street, W.:—

C. Wibley	£1,224 10	J. Vallis, Frome*	£1,110 0
J. T. Seward	1,116 10		

* Accepted.

GREENOCK.—For the construction of a sewer, with manholes, &c., Inverkip-street, for the Board of Police. Mr. Alex. J. Turnbull, C.E., Burgh Surveyor. Quantities by Surveyor:—

Kerr & Melville	£173 4 7
R. Aitkenhead & Sons, Greenock (accepted)	128 5 8

KETTERING.—For additions and improvements to shoe factory, Kettering, for Mr. W. Wright. Messrs. Mosley & Anderson, architects and surveyors, Goodyear Chambers, Northampton. Quantities by architects:—

Atkins & Goodwin	£779 0 0	W. Clow	£550 0 0
Dunham & Bass	575 0 0	J. Fishburn	547 0 0
A. Barlow	563 2 6	Wilson, Kettering*	508 17 0

* Accepted.

[Surveyors' estimate, £530.]

KINGSTON.—For addition to Female Infirmary, Kingston Union. Mr. W. H. Hope, C.E., architect. Quantities supplied:—

Rochelle, Gover, & Smith	£8,126 9 11	Judd	£6,958 12 6
Yerbury & Sons	8,000 0 0	Oldridge & Sons	6,949 0 0
Turtle & Appleton	7,853 0 0	J. O. Richardson	6,929 0 0
Cooke & Co.	7,617 0 0	Dorey & Co.	6,871 0 0
Tompsett & Kingham	7,236 0 0	Lane & Son	6,730 0 0
Wall & Co.	7,158 0 0	Botterill & Son	6,517 0 0
Allen & Sons	7,125 0 0	Lorden & Son*	6,487 0 0
Gaze	6,980 0 0	Jobbins	6,282 0 0
		Jackson	5,454 0 0

* Accepted.

KINGSTON-ON-THAMES.—Accepted for the erection of four shops, Kingston. Messrs. F. & W. Stocker, surveyors, 90 and 91, Queen-street, Cheapside, E.C.:—

Charles King, 136, Blackfriars-road, S.E. £1,924 0 0

LEEDS.—For the erection of three houses, Beeston, for Mr. Edwd. Thompson. Mr. T. A. Buttery, architect, Exchange-buildings, Queen-street, Morley:—

Mason.—J. Pickersgill, Street Side, Ossett	£242 0 0
Joiner.—Armatage Bros., Town-street, Armley	58 8 0
Plumber.—W. Anty, Chapel-hill, Morley	9 17 0
Plasterer.—W. H. Cundale, Cemetery-road, Holbeck	25 0 0
Slaters.—Sharp & Harper, Bath-road, Leeds	18 10 0

LLANDEBIE.—For the erection of a school at Saron, for the Llandebie United District School Board. Mr. David Jenkins, architect, Llandilo:—

Evans & John	£1,450	J. Davies	£1,240
B. Jenkins	1,250	Walters, Mainwaring, & Powell, Llandebie*	1,200
S. W. Deakins	1,247		

* Accepted.

LLANDEBIE.—For the extension of Pen-y-Groes School, for the Llandebie United District School Board. Mr. David Jenkins, architect, Llandilo:—

Evans & John	£936	B. Jenkins	£790
S. W. Deakins	875	J. Davies	775
Walters, Mainwaring, & Powell, Llandebie*	800		

* Accepted.

LONDON.—For the enlargement of the Ecclesbourne-road School, Essex-road, Islington, by 364 places, and the provision of a laundry centre, for the School Board for London. Mr. T. J. Bailey, Architect:—

		For brickwork in cement, add
T. Boyce	£8,002 0 0	£150 0 0
Foster & Dicksee	7,689 0 0	170 0 0
S. J. Jerrard	7,558 0 0	157 0 0
McCormick & Sons	7,341 0 0	131 0 0
Reed & Son	7,359 0 0	175 0 0
Yerbury & Sons	7,325 0 0	295 0 0
E. Lawrance & Sons, Wharf-road, N.	6,945 0 0*	170 0 0*

* Recommended for acceptance by the Works Committee.

LONDON.—For carrying out various improvements at the school in Wilmot-street, Bethnal Green, for the School Board for London. Mr. T. J. Bailey, Architect:—

		For brickwork in cement, add
S. & W. Pattinson	£5,269 0 0	£10 0 0
A. Reed & Son	5,213 0 0	8 0 0
Killby & Gayford	5,120 0 0	8 0 0
D. Charteris	5,112 0 0	7 0 0
E. Lawrance & Sons, Wharf-road, N.	4,847 0 0*	8 0 0*

* Recommended for acceptance by the Works Committee.

LONDON.—For the provision of a laundry centre in connexion with the "Springfield" School, Wandsworth-road, and for other works, for the School Board for London. Mr. T. J. Bailey, Architect:—

		For brickwork in cement, add
S. & W. Pattinson	£4,239 0 0	£47 0 0
Holliday & Greenwood	4,167 0 0	60 0 0
Holloway Bros.	4,030 0 0	58 0 0
Lathey Bros.	3,969 0 0	52 0 0
Mid-Kent Co.	3,955 0 0	58 0 0
J. Marsland	3,895 0 0	60 0 0
W. Downs, Hampton-street, Walworth-road	3,790 0 0*	50 0 0*

* Recommended for acceptance by the Works Committee.

LONDON.—For the enlargement of the St. Leonard's-road School, Bromley-by-Bow, by 400 places, for the School Board for London. Mr. T. J. Bailey, Architect:—

		For brickwork in cement, add
McCormick & Sons	£2,654 0 0	£39 0 0
Yerbury & Sons, Kilburn	2,356 0 0*	45 0 0*

* Recommended for acceptance by the Works Committee.

LONDON.—For the provision of a laundry centre in connexion with the Morden-terrace School, Lewisham, and for other works, for the School Board for London. Mr. T. J. Bailey, Architect:—

		For brickwork built in cement, add
J. Smith & Sons	£1,255 0 0	£28 0 0
B. E. Nightingale	1,240 0 0	37 0 0
J. Willmott & Sons	1,200 0 0	33 0 0
E. Lawrance & Sons	1,164 0 0	32 0 0
C. Cox	1,154 0 0	35 0 0
E. Proctor	1,096 10 11	28 2 4
W. V. Goad, Camberwell-road, S.E.	1,064 0 0*	33 0 0*

* Recommended by the Works Committee for acceptance.

LONDON.—For rebuilding all the offices in connexion with the Holland-street School, Blackfriars, and for other works, for the School Board for London. Mr. T. J. Bailey, Architect:—

A. Black & Son	£1,137	W. & H. Castle	£916
W. V. Goad	1,068	H. Mallett	872
W. Downs	1,040	Lathey Bros.*	844
J. Garrett & Son	933		

* The Works Committee, as a matter of emergency, have accepted the lowest tender.

LONDON.—For removing three temporary iron buildings from the Eardley-road site, Streatham (so soon as they shall have been released), and for re-erecting them on the site in Brook-green, Hammersmith, for the School Board for London:—

W. Harbrow	£789 0 0	Croggon & Co., Lim.*	£537 10 0
T. Cruwys	764 9 9		

* Recommended for acceptance by the Works Committee.

LONDON.—For providing and fixing warming apparatus on the low-pressure hot-water system for both of the Junior Mixed School and a Pupil Teachers' School on the site in Burghley-road, Highgate-road, for the School Board for London. Mr. T. J. Bailey, Architect:—

Maguire & Son	£482 5	G. Davis	£375 0
Perkins & Son	480 0	Fraser & Fraser	374 0
Jenkins & Son	411 0	Fraser & Son	372 0
R. Crane	381 0	Purcell & Nobbs, Cleveland-street, W.*	342 15

* Recommended by the Works Committee for acceptance.

LONDON.—For the new Amersham Grove Sunday School, New Cross, S.E. Mr. George Baines, architect, 4, Great Winchester-street, E.C.:—

Higgs	£1,801	Gorham	£1,686
Holloway	1,730	Battley, Son, & Holness	1,579
Nightingale	1,728	Coxhead	1,543
Houghton	1,703	Scott	1,539
J. O. Richardson	1,701	Leng	1,490

LONDON.—For the erection of new bakery, &c., in Brewery-road, Caledonian-road, N. Mr. W. Egerton, architect. Quantities supplied:—

Mowlem & Co.	£7,742	Gregar & Son	£7,190
Holliday & Greenwood	7,507	Kirk & Randall	7,164
Houghton & Son	7,492	J. O. Richardson*	6,929
Williams & Son	7,429	Battley, Son, & Holness	6,924

* Accepted.

LONDON.—For "Old Farm House" beer-house, Battersea Park-road, S.W. Mr. W. J. Ingram, architect:—

White & Co.	£691	Hibberd Bros.	£522
J. O. Richardson	628	Williams & Richards	513
Sabey & Son	590	Knight	507
Nightingale	583	Howlett	505
Rouse	557	Mid Kent Building Co.	478
Sparks & Son	545		

LONDON.—For pulling down old police-station in Judd-street, Euston-road, and rebuilding a new police-station on the site. Mr. John Butler, architect. Quantities by Mr. W. H. Thurgood:—

Higgs & Hill	£9,999	Ansell	£9,380
Perry & Co.	9,666	Lathey Bros.	9,274
Hart Bros.	9,693	Killby & Gayford	9,098
Dove Bros.	9,477	Chessum & Sons	8,995
Scrivener & Co.	9,460	Lawrance & Son	8,887
Grover & Son	9,417	J. O. Richardson, Albert Works, Peckham*	8,829
Smith & Son	9,400		

* Accepted.

LONDON.—For alterations and additions to No. 132, Rye-lane Peckham, S.E., for Mr. West. Mr. W. Burrill, architect:—

Reynolds	£610	J. O. Richardson, Albert Works, Peckham*	£458
Gregory & Co.	493		

* Accepted.

LONDON.—For alterations at No. 186, Rye-lane, Peckham, for Messrs. Dansie Bros. Mr. E. J. Strevens, architect:—

J. O. Richardson	£426 0	King & Son	£250 0
Ham	390 10	Tunbridge	200 0
Simpson & Co.	315 0		

LONDON.—For alterations and additions at Nos. 225, 228, and 230, Old-street, City-road, E.C., for Messrs. Alexander Lefever & Co:—

Gould & Brand	£1,763	J. O. Richardson	£1,433
Patman & Fotheringham	1,717	Thomas	1,421
F. & H. F. Higgs	1,599	Jarvis	1,235
Easden & Co.	1,595	London & Co. (accepted)	975
Appleby	1,504		

LONDON.—For the erection and completion of new Vestry Hall, Rosoman-street, Clerkenwell, E.C. Mr. Vaughan, architect. Quantities supplied by Messrs. Tasker & Son:—

Lawrence	£15,988	J. O. Richardson	£15,345
Bywaters	15,980	Roberts	15,134
Perry & Co.	15,900	C. Wall	14,700
Dove Bros.	15,775	Dearing & Son*	14,491
Nightingale	15,587		

* Accepted.

LONDON.—For the erection of new Police Station, at Holmsroad, N.W. Mr. R. Norman Shaw, R.A., architect. Quantities by Messrs. Franklin & Andrews:—

Willmott & Son	£14,350	J. O. Richardson	£13,498
Ansell	14,167	Boyce	13,470
Grover & Son	14,100	Hart	13,362
Higgs & Hill	13,992	Lawrance	13,235
Lathey	13,980	Mitchell (accepted)	12,750
Downs	13,590		

LONDON.—For pulling down No. 141, Rye-lane, Peckham, S.E., and erecting shops and flats thereon. Mr. Manning, architect:—

Allen & Sons	£2,865	Battley	£2,597
Elliott	2,820	Smith	2,586
Maides & Harper	2,675	J. O. Richardson	2,548
Moody	2,612	Rodwell (accepted)	2,485

LONDON.—Accepted for alterations and additions and sanitary works at Princes-road, Bermondsey, S.E. Mr. R. W. Hobden, architect:—
J. O. Richardson, Albert Works, Peckham, S.E. £330 0 0

LONDON.—For pulling down and rebuilding Nos. 125 and 127, Newington Butts, Walworth, for Messrs. Mathews. Mr. F. A. Powell, architect. Quantities supplied by Mr. Walter West:—

Burman & Son	£3,240	Josolyne & Young	£3,045
Tyerman	3,230	W. & H. Castle	2,995
Mills & Son	3,188	Downs	2,950
H. L. Holloway	3,100	Smith	2,818
J. G. Richardson	3,100		

LONDON.—For the erection of premises, Nos. 12 and 14, Hare-street, Woolwich, S.E., for Mr. Hunt. Mr. H. H. Church, architect, William-street, Woolwich. Quantities by Mr. W. Whincop, 44, Norcott-road, Stoke Newington, N.:—

Multon & Wallis	£1,599	H. Brown	£1,564
F. Chapman	1,595	H. L. Holloway	1,563
Young & Lonsdale	1,577	Balaam Bros.	1,480

LONDON.—For the proposed new avenue to be erected for Mr. Joseph Carter Wood, on the ancient site in Westminster known as the Artillery Brewery. Mr. John Calder, architect. Quantities by Mr. Edwd. Crutchloe, the Albert Chambers, Victoria-street, S.W.:—

Contract No. 1.

Foster & Dicksee	£22,330	S. & W. Pattinson	£18,873
J. Norris & Sons	21,224	Dove Brothers	18,810
Kilby & Gayford	19,227	Holloway Brothers	18,640
Geo. Trollope & Sons	18,974	William King & Son*	16,900

* Accepted.

LONDON.—For the erection of premises in Hetherington-road' Brixton, for Mr. J. Pratt. Mr. M. V. Treleaven, architect and surveyor, Acre-lane, Brixton, S.W.:—

J. Marsland	£680	Byrne & Wright	£665
T. Price	670	W. Hammond (accepted)	600

LONDON.—For erecting three fever blocks, mortuary, discharge room, &c., at the Western Hospital, Seagrave-road, Fulham, for the Metropolitan Asylums Board. Messrs. A. & C. Harston, architect, 15, Leadenhall-street, E.C. Quantities by W. T. Farthing, 46, Strand, W.C.:—

Holliday & Greenwood	£25,377	W. Johnson & Co., Limited, Wandsworth Common (accepted)	£23,950
J. H. Newman	25,333		
Leslie & Co.	24,452		

LONDON.—For erecting two boiler-rooms and fitting-up hot water warming apparatus to the two enteric blocks of the Eastern Hospital, Homerton, for the Metropolitan Asylums Board. Messrs. A. & C. Harston, architects, 15, Leadenhall-street, E.C.:—

Ellis & Co.	£687 10	Sugg & Co., Limited	£570 0
J. & F. May	630 0	Clarke & Sons, 49, Moor-gate-street (accepted)	547 0
Clements, Jeakes, & Co.	625 0		

LONDON.—For new billiard room and other additions to the "Bell Inn," Hendon, N.W. Mr. H. Hardwicke Langston, architect, 9, St. James-street, Bedford-row, London. Quantities not supplied:—

T. Hudson	£785 0	J. Allen & Son	£379 10
T. Nye	550 0		

LONDON.—For additions and alterations to business premises, for Mr. Walter Cobb, Sydenham. Messrs. James Tolly & Son, architects, 66, Cannon-street:—

	No. 1. Additions to shop.	No. 2. Mr. Glass's premises.	No 3. Stabling &c.	Total.
James Carmichael	£2,414	£540	£461	£3,415
Waddington	2,350	515	435	3,300
Bulled	2,285	479	386	3,150
Henry Leney*	2,253	470	374	3,097

* Accepted.

MANSFIELD (Notts.).—For laying sewers, with manholes, &c., Westfield-lane and Chesterfield-road. Mr. R. Frank Vallance, Borough Surveyor, Mansfield:—

	Westfield-lane.	Chesterfield-road.
J. H. Vickers	£276 14 5	£145 10 0
James Bradley	241 19 0	153 13 0
J. W. Fisher	234 0 0	135 0 0
W. A. Vallance	216 0 0	135 0 0
Jno. Greenwood, Mansfield*	210 0 0	128 0 0

* Accepted.

NORTHAMPTON.—For new house and bakery premises, for Mr. W. T. Skempton, Althorpe-road, Northampton. Messrs. Mosley & Anderson, architects and surveyors, Goodyear-chambers, Northampton. Quantities by architects:—

J. Woodford & Son	£835 0	W. Throssell	£760 0
E. D. Sharman	820 0	Gregory & Son	760 0
G. J. Fisher	780 0	R. Gosford	755 0
Branson & Son	777 0	Wilford & Judkin	745 0
J. Garrett	769 15	G. F. Sharman	735 0
J. Dunckley	765 14	W. Heap, Northampton*	728 0

[Surveyors' estimate, £745.]
* Accepted.

OTLEY.—Accepted for the erection of twenty-four cottages, Leeds-road, for Mr. John Gledstone. Mr. A. Marshall, architect, Otley, Leeds. Quantities by architects:—

Builder.—Wm. Simpkiss, Hunslet	£2,160 0 0
Joiner.—James Jennings, Otley	755 0 0
Plumbers.—James Suttle & Sons, Otley	130 0 0
Plasterer.—Andrew Taylor, Eccleshill	158 0 0
Painter.—Geo. Kendall, Otley	38 0 0

ST. AUSTELL (Cornwall).—For additions to school buildings, for the St. Mewan School Board:—

Carpentry and Masonry.—Smith & Brent, West End, St. Austell	£276 15 0
Masonry.—J. R. Stone, Sticker, St. Austell	172 0 0
Masonry.—Thos. Bennetts, Fore-street, St. Austell	149 0 0
Carpentry.—T. Watters, St. Stephens, Gram-pound-road	100 0 0
Carpentry.—T. J. Richards, St. Stephens, Gram-pound-road (accepted)	96 10 0
Carpenter.—John Coad, Sticker, St. Austell	100 0 0
Masons.—Hunkin & Dowrick, Mount Charles, St. Austell	93 10 0

SOUTHAMPTON.—For the erection of Central Board Schools, with offices, boundary walls, caretaker's house, &c., for the Millbrook School Board. Mr. A. F. Gutteridge, architect. Quantities by Messrs. W. H. Mitchell & Son, 9, Portland-street, Southampton:—

	School.	House.	Total.
Playfair & Toole	£10,460	£880	£11,340
T. H. Kingerlee	9,993	895	10,885
Light & Son	9,857	900	10,757
Stevens & Co.	9,700	900	10,600
G. H. Tucker	9,683	874	10,557
Jenkins & Son	9,555	869	10,424
H. Cawte, Southampton*	9,390	860	10,250

Accepted subject to confirmation of the Educational Department.

Hot-water heating, &c.

Haden & Son, Trowbridge (accepted) £775 0 0

SOUTHAMPTON.—Accepted for alterations and additions to the "Ship Inn," Northam-road, Southampton. Messrs. W. H. Mitchell, Son, & Gutteridge, architects:—
Playfair & Toole, Southampton £263

SOUTHAMPTON.—Accepted for alterations and additions to the "Uncle Tom's Cabin" public house, Millbank-street, Southampton, Messrs. W. H. Mitchell, Son, & Gutteridge, architects:—
H. Stevens & Co. Southampton £260

SOUTHAMPTON.—For construction of new road and culvert, &c., on the Southampton West Building Estate. Messrs. W. H. Mitchell, Son, & Gutteridge, surveyors:—

Sidney Nichols	£662 0	Crook & Batten, South-ampton (accepted)	£575 10
F. Osman	637 0		

SOUTHAMPTON.—Accepted for alterations and additions to "Brown Hill," Bursledon. Messrs. W. H. Mitchell, Son, & Gutteridge, architects:—
H. Cawte, Southampton £1,544 0 0

SOUTHAMPTON.—For alterations, &c., to "Coachmakers' Arms," Southampton West:—

	House.	Fitting.	Total.
Stevens	£373	£72	£445
Jukes	320	71	391
Warden	315	63	378
Hale	321	55	376

SOUTHAMPTON.—For new shop, bakery, &c., Lodge-road, Southampton. Messrs. W. H. Mitchell, Son, & Gutteridge, architects:—

T. J. Jukes	£342 0 0
F. Merefield, Southampton (accepted)	329 17 0

SOUTHAMPTON.—For the erection of coach-house, stabling, &c., at the "Cowherds" public-house, for the Corporation. Mr. W. B. G. Bennett, Borough Surveyor, Southampton:—

Bagshaw & Sons	£515	H. W. Bull	£396
W. C. Mears	467	T. Howell	351
J. W. Rowland & Sons	447	F. & J. Young*	349

[All of Southampton.]
* Recommended for acceptance.

WEST ARDSLEY (Yorks.).—For the erection of nine scullery houses, walls, &c., Westerton, for the Batley Co-operative Society Limited. Mr. Jno. H. Brearley, architect, Commercial-street, Batley:—

Mason.—Edward Pickles	£722 0
Joiners.—Henry Brooke	270 5
Plumber, &c.—Jas. Walshaw	33 0
Plasterer.—Wm. Pouker	72 0
Slater.—J. M. Thornton	62 15

WESTON-SUPER-MARE.—For the erection of cottage residence Wallescote and Severn-roads, Weston-Super-Mare. Mr. H. Dare Bryan, architect, 38, College-grove, Bristol:—

Stephens, Bastow, & Co., Ltd.	£1,198 0	Force & Dubin	785 0
Hatherley & Carr	1,097 0	Chas. Taylor	780 0
Chas. Addicott	1,015 15	Jno. Hands	775 0
Jno. Palmer	950 0	H. W. Pollard-Bridgwater*	660 0

*Accepted.
Exclusive of oak floors, staircase, &c.

WIMBLEDON.—For the erection of a new residence and stabling, Wimbledon Park. Mr. H. Phelps Drew, architect, 29 and 30, King-street, E.C. Quantities supplied:—

Jones & Richards	£3,789	W. Norton	£3,420
Adamson & Sons	3,650	T. Nye	3,300
Garrett & Son	3,490	J. Horrocks, Croydon*	3,089

* Accepted.

WORKINGTON (Cumberland).—For the erection of four houses, Curwen-street, for Mr. T. S. Douglas. Mr. Jas. Howes, architect, Lorne-terrace, Workington:—

Lister, McCartney, & Lister	£1,419 0	L. Ferguson	£1,335 0
J. I. Wilson	1,406 13	John Murchie, Workington (accepted)	1,323 10
Jos. Coulthard	1,420 0	Saml. McWhinney	1,223 10

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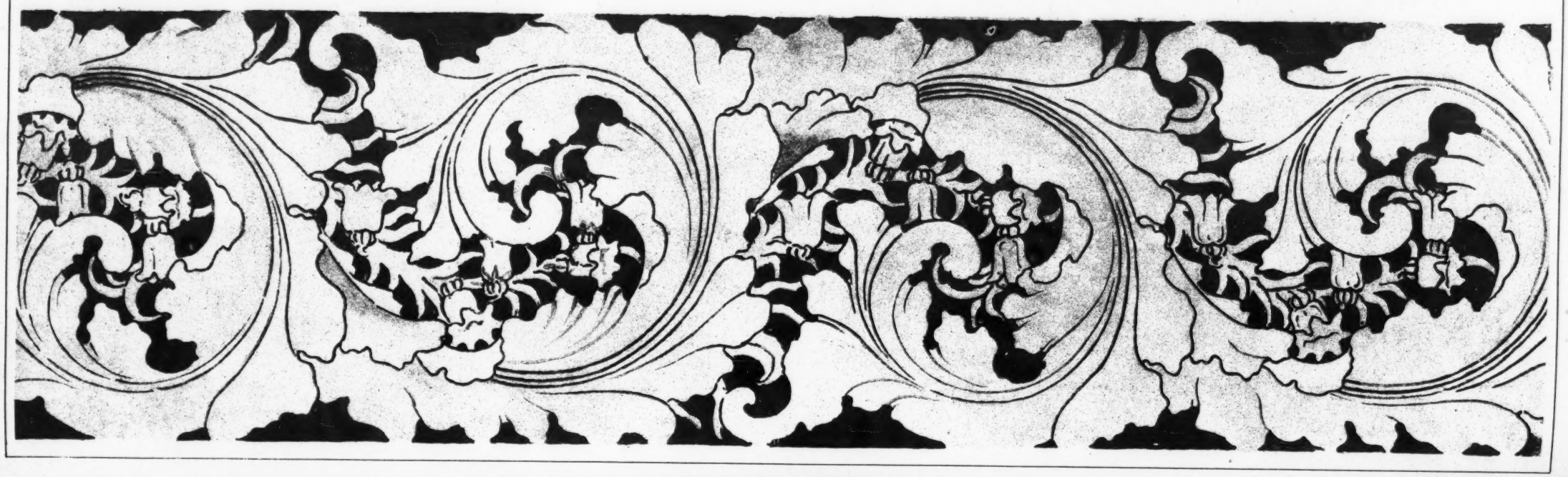

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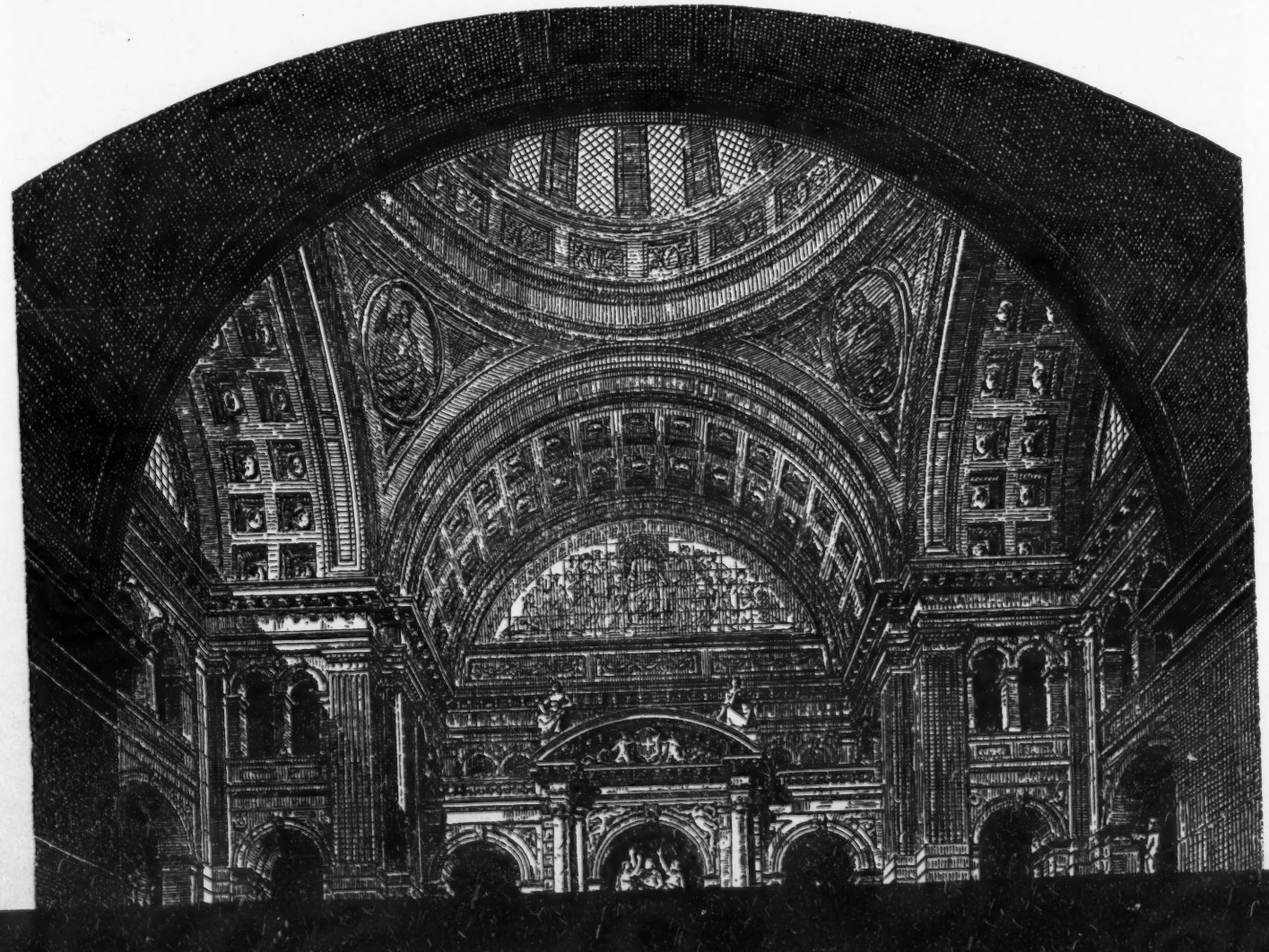
TOPOGR. ANST. GEBR. KUMMERLY BERN.

Block I.—(1852-57.)
(Messrs. Stadler & Studer, Architects.)

Block III.—(Proposed.)
(Professor Auer, Architect.)

Block II.—(1888-92.)
(Professor Auer, Architect.)

VIEW FROM THE SOUTH, SHEWING THE EXISTING BLOCKS WITH THE PROPOSED BUILDING IN THE CENTRE.



Direktion der eidg. Bauten. Photogr. M. Girardet Berne

THE GRAND STAIRCASE.

THE PROPOSED HOUSES OF PARLIAMENT AT BERNE.—Professor H. Auer, Architect.

PHOTO-LITHO. SPRAGUE & Co 4 & 5 EAST HARDING STREET FETTER LANE E.C.

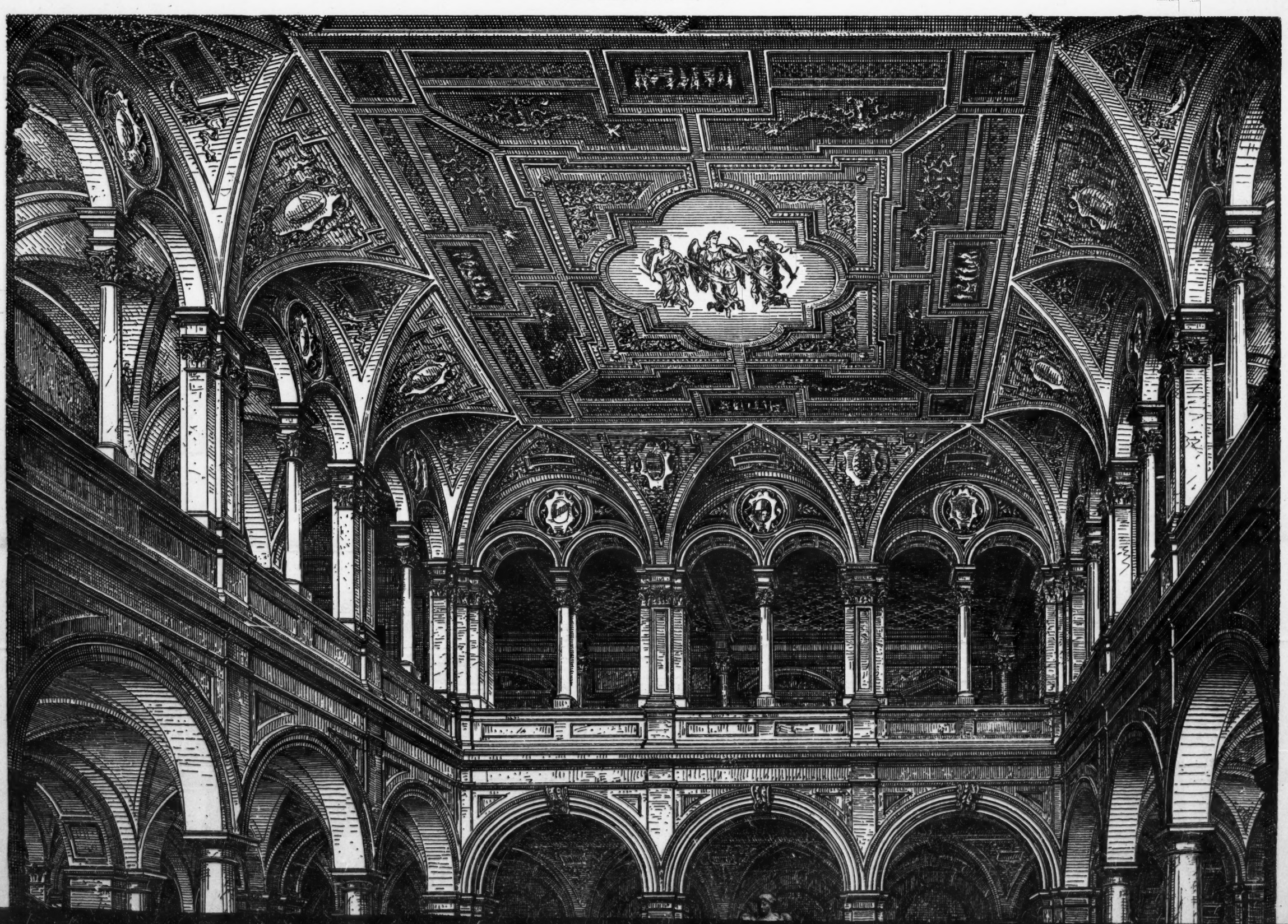


PHOTO-LITHO. SPRAGUE & Co 4 & 5 EAST HARDING STREET, FETTER LANE, E.C.

HOUSES OF PARLIAMENT, BERNE.

THE VESTIBULE OF THE NEW GOVERNMENT OFFICES (BLOCK II., 1888-1892).—PROFESSOR H. AUER, ARCHITECT.

HOUSES OF PARLIAMENT, BERNE.

THE FIRST FLOOR GALLERY OF THE NEW GOVERNMENT OFFICES (BLOCK II., 1888-1892).—PROFESSOR

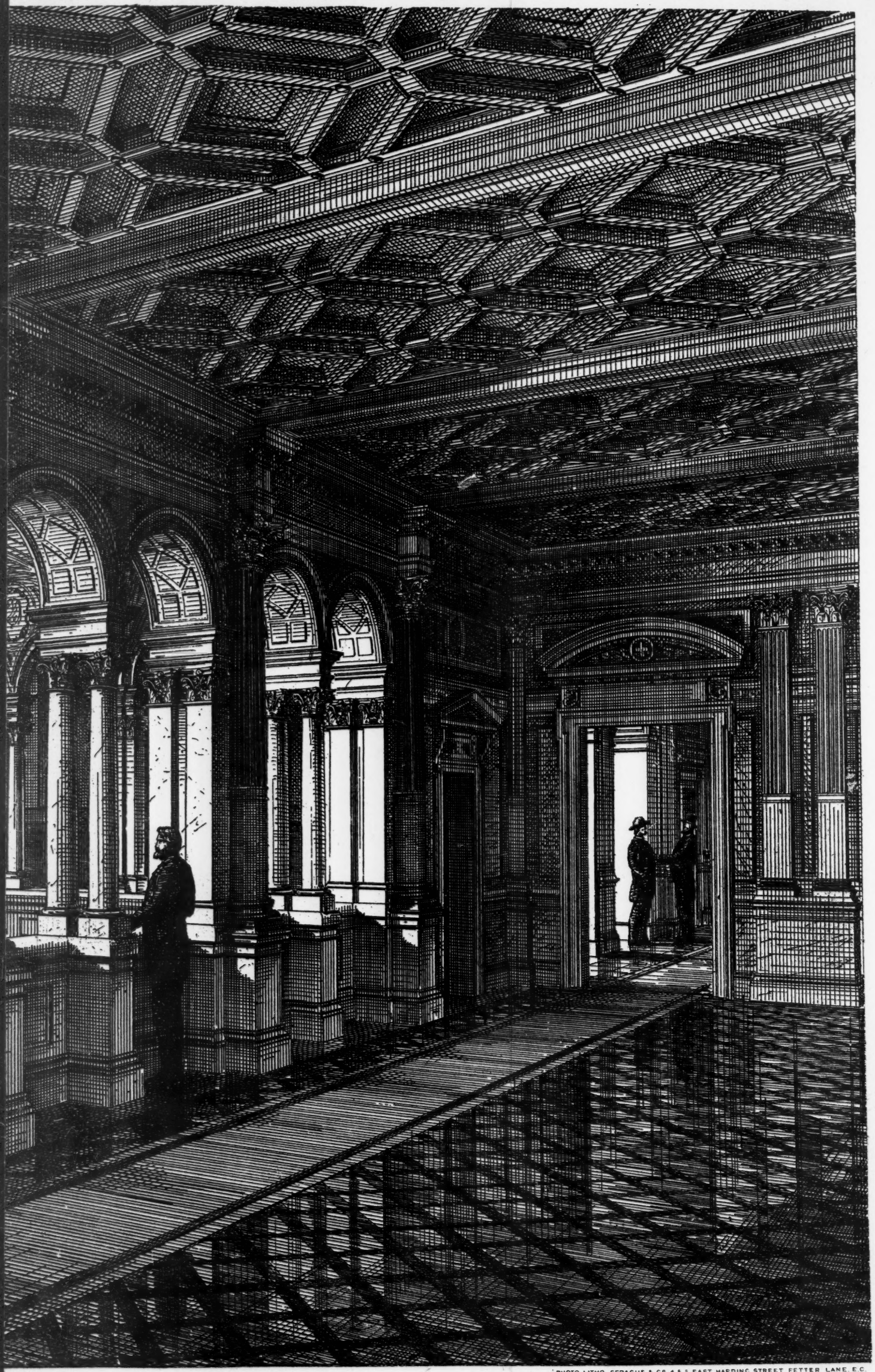


PHOTO-LITHO. SPRAGUE & Co 4 & 5 EAST HARDING STREET FETTER LANE. E.C.

SES OF PARLIAMENT, BERNE.

OVERNMENT OFFICES (BLOCK II., 1888-1892).—PROFESSOR H. AUER, ARCHITECT.